Chapter 2 Drilling survey

2-1 Method of the survey

2-1-1 Purpose and outline of the survey

Based on results of Phase I surveys, the drilling survey was carried out in order to find out new ore deposits. The drilling survey consists of five drill holes, total length of 2,100.74 meters. The target sites are in the WS area where the geochemical and geophysical anomalies are obtained by Phase I survey.

Each drilling sites are shown in Fig.II-2-1, and details of drilling and laboratory tests were shown in Table I-1-1.

The drilling work was contracted by R. A. Longstaff (Pvt) Ltd., based in Harare.

Each drilling survey was smoothly performed.

2-1-2 Drilling method and equipments

Two drilling machines were used. All holes were drilled down by wireline method using NX diamond bit. Equipment used and material consumed for drilling operation are all prepared in Zimbabwe and listed in Table II-2-1 and Table II-2-2.

Table II-2-1 List of drilling equipments

Item	Quantity	Specification	Comment
Longyear 44 drill rig	2	800 meters	
Bean pump F.M.C.C/W	3	300 LPM	
Lister TS2	1		
Landini 4x4 tractor	1		
Trailer	2	6 inch	
Shear legs	350	wireline	
Rods NQ 3 meter	40		
Casing NW 3 meter	4	wireline	
NQ core barrels 3 meter	5		
Stand pipe 3 meter	1	220 V	
Generator greavs	2	Hydraulic	
Winches	2	Longyear	
Water swivels	500 m	2 core	
Cable	2		
Tool boxes	1	D6CAT	
Bulldozer			

Table II-2-2 List of supplies and consumables spent

Item	Quantity	Specification	Comment
Diesel	6,200 Lts		
Dromus	50 Lts	Cutting oil	
Hydraulic oil	190 Lts	Rand 46	
Gear oil	150 Lts	EP 90	
Engine oil	175 Lts	15W40	
Geovis	250 Lts	Drilling	
Rod grease	350 Kg	mud	
Lubricating grease	90 Kg	Drilling	
Cement	14 Pkts	luve	
Hyd fittings	37	Marfak No.2	
Hydraulic pumps	4	50 Kg	
Basic drill	2 Sets	Assorted	
Hyd relief valves	2	Parker	
Hyd motors	2	3000PSI	
Cable	1,200 mts	Gears	
Hard hats	10		
overalls	6	OKE 2500	
Coupling	1	PSI	
Clutch Pads	2 Sets	6 mm non	
V belts	3	spin	
Hyd chuck	1		
Wrench jaws	26		
Wrenches complete	6	Fenner	
Preasure gauges	4	10 inch	
Hyd chuck jaws	3 Sets	10N 1400	
Brake bands	1 Set		
Clamp jaws	2 Sets	18,24,36	
NXC crowns	6	18,24	
NXC shells	2	ridged	
NQ crowns	10	HYD	
NQ shells	4	L44 chuck	
NXC core springs	5	L44	
NQ core splings	22	NQ	
4 9/16 crowns	2	1765	
4 9/16 shells	2		
4 9/16 core splings	2	P205	
NQ core lifter	8		
4 9/16 core barrel	4		
NQ inner tubes	4		
Light bulbs	45	Harmett	

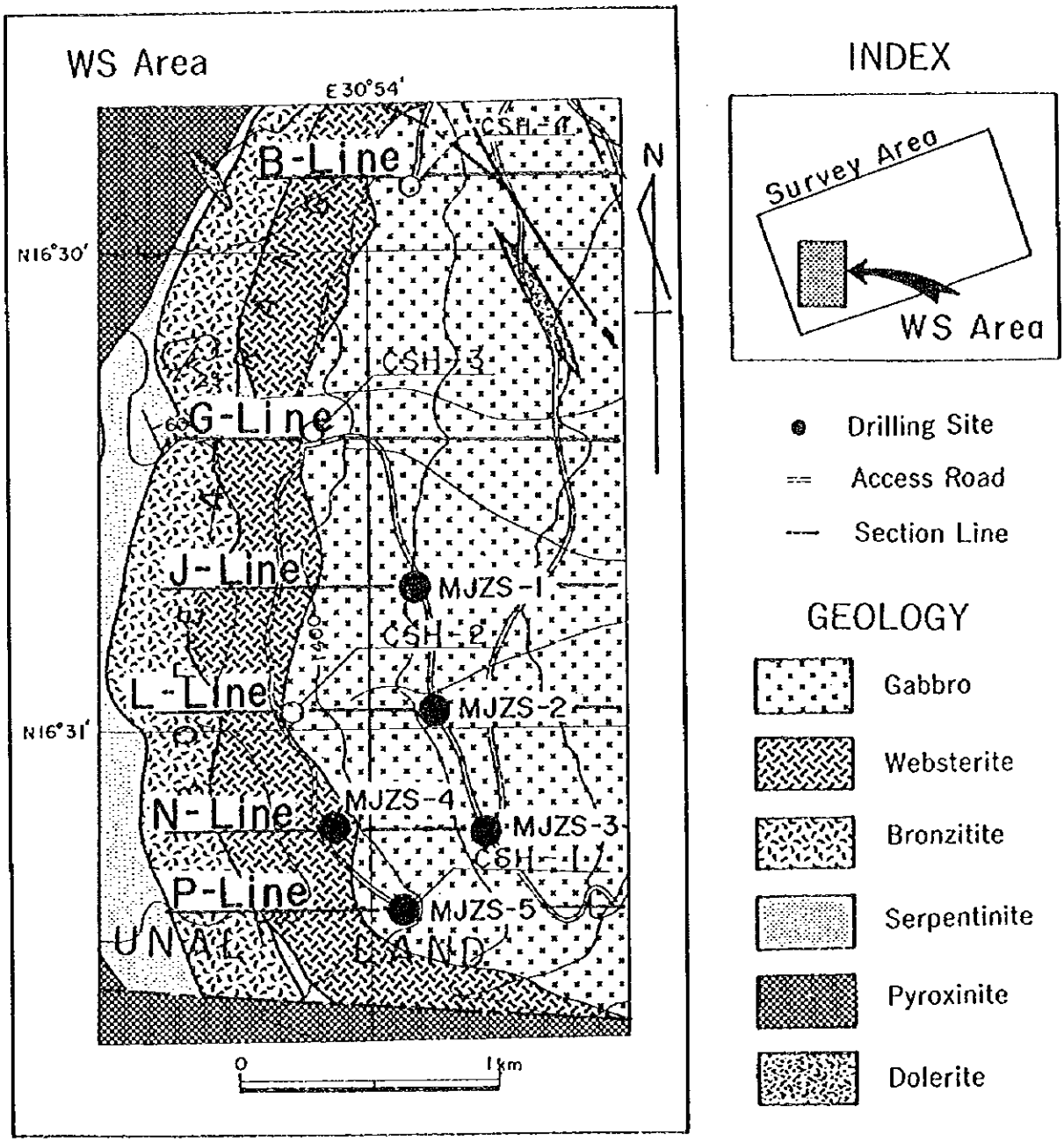


Fig.II-2-1 Locality of drilling sites

2-1-3 Drilling works

1) Road and site Preparation

Access road was strongly destroyed by heavy rain in this year, therefore it reconstructed by using bulldozer and spent about one month. All drilling sites ware on slope, construction of work roads and site preparation for 5 drilling sites were performed by using bulldozer.

2) Mobilization and Demobilization

A 10ton truck was used for mobilization work between Harare and extra storage yard. All equipments and tools were transported pulling by 4x4 tractor between extra storage yard and each drilling sites. After completion of the final hole, all equipment and tools were checked and repaired and then stored by Longstaff people.

Drilling cores were transported to a storage of the Ministry of Mines in Harare.

3) Core recovery and drilling water control

The depth of weathered zone is in around from 15 to 37 meters in each holes. Core recovery are 36.7% to 52.0% in this zone. After the drilling reached to fresh rock, core recovery increase to 100%. Total core recovery of each holes are 95.7% to 100%, and 97.9% in average.

Pure water was used to drilling and polymer was added to water according to ground condition.

4) Water Supply

Drilling water was taken from the river pass through southern end of the area. A bowser capacity of 6 cubic meters was used for the water supply.

2-1-4 Drilling conditions

Summary of drilling condition is shown in Table II-2-3. Progress of each drill hole is shown in Table II-2-4. Drilling conditions of each hole are shown in Table II-2-5 to Table II-2-9.

Each drilling machine was operated by one driller and four assistants. A shift 10 hours per day was applied and 2 shift par day working also adopted under the necessity of doing.

3 m of stand pipe was used at the surface portion, and around 30 m of casing pipe was used according to ground condition in each hole.

All drilling holes were smoothly performed only with small machine trouble.

Table II-2-3 Condition of drillings

No.	Period					Drilling		Casing			Efficiency (m)			
	Start	Complete	Total days	Working days	Day-off	Depth (m)	Recovery (%)	Size (mm)	Depth (m)	Recovery (%)	Depth/ Total -days	Depth/ Working -days	Depth/ Total Drill-days	Depth/ True Drill-days
MJZS- 1	96/09/24	96/10/12	19	19	0	400.00	97.63	86	24.0	87.5	21.05	21.05	33.33	33.33
MJZS- 2	96/09/08	96/09/24	17	17	0	500.00	97.10	86	24.0	87.5	29.41	29.41	45.45	45.45
MJZS- 3	96/08/01	96/09/08	39	34	5	500.30	95.66	86	37.0	91.9	12.83	14.71	19.24	19.24
MJZS- 4	96/09/30	96/10/21	22	22	0	300.00	100.00	86	12.7	70.9	13.64	13.64	33.33	33.33
MJZS- 5	96/08/21	96/09/29	40	37	3	400.44	98.20	86	37.7	90.2	10.01	10.82	16.02	16.02

Table II-2-4 Time table of drillings

Month	July	August	September	October
Road construction	5 ——	31		
Movement		1 ——	31	
MJZS-3		14 ——	7	
MJZS-2			13 —— 23	
MJZS-1			26 ——	6
MJZS-5			6 —— 28	
MJZS-4				4 —— 12
Withdraw				13 —— 21

2-2 Result of the survey

2-2-1 Lithology of holes

Drilling Columns are shown in Fig.II-2-2 to Fig.II-2-6. Geologic section are shown in Fig.II-2-7 to Fig.II-2-10. The results of microscopic observation of thin section of rocks are shown in Table II-2-10.

Summary of each hole is as follows :

(1) MJZS-1 (202.60m)

The bed rock appears after the red and white soil portion of 8.90 meters.

8.90m--162.80m Gabbro

It shows green to dark green in color, and fine grain, minute , hard. Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of plenty of plagioclase and approximately same quantity of orthopyroxene and clinopyroxene each other. White and pale green, coarse grain part is recognized in some part, a white spot of plagioclase becomes remarkable. A small vein of calcite, chlorite and serpentine is admitted along to brecciated zone.

162.80m--222.70m Websterite

It shows green to dark green in color, and medium to coarse grain, Texture is holocrystalline and equigranular. Mineral assemblage is composed of approximately same quantity of orthopyroxene and clinopyroxene. Extremely fine grain and small quantity of sulphide dissemination which mainly composed of pyrite, pyrrhotite and chalcopyrite accompanied. Small vein of chlorite and serpentine is admitted in websterite layer.

222.70m--232.00m Serpentinite

It shows pale green to yellow green in color. Mineral assemblage is mainly composed of olivine. Rock facies shows fine grain and soapy, and characteristically shows banding and stripe form with dark and clear color.

232.00m--283.50 Bronzitite

It shows dark green to dark gray in color. Texture is a fine grain, holocrystalline and equigranular. Mineral assemblage is composed of almost all orthopyroxene and include a small to an extremely small quantity of clinopyroxene. Uppermost of this layer include sulphide dissemination which mainly composed of pyrite, pyrrhotite and chalcopyrite.

283.50m--293.00m Serpentinite (~Harzbergite)

Both contact part shows pale green in color. Rock facies shows fine grain, soapy, and stripe form. Center part shows black in color, fine grain minute and hard. Mineral assemblage is almost all composed of olivine.

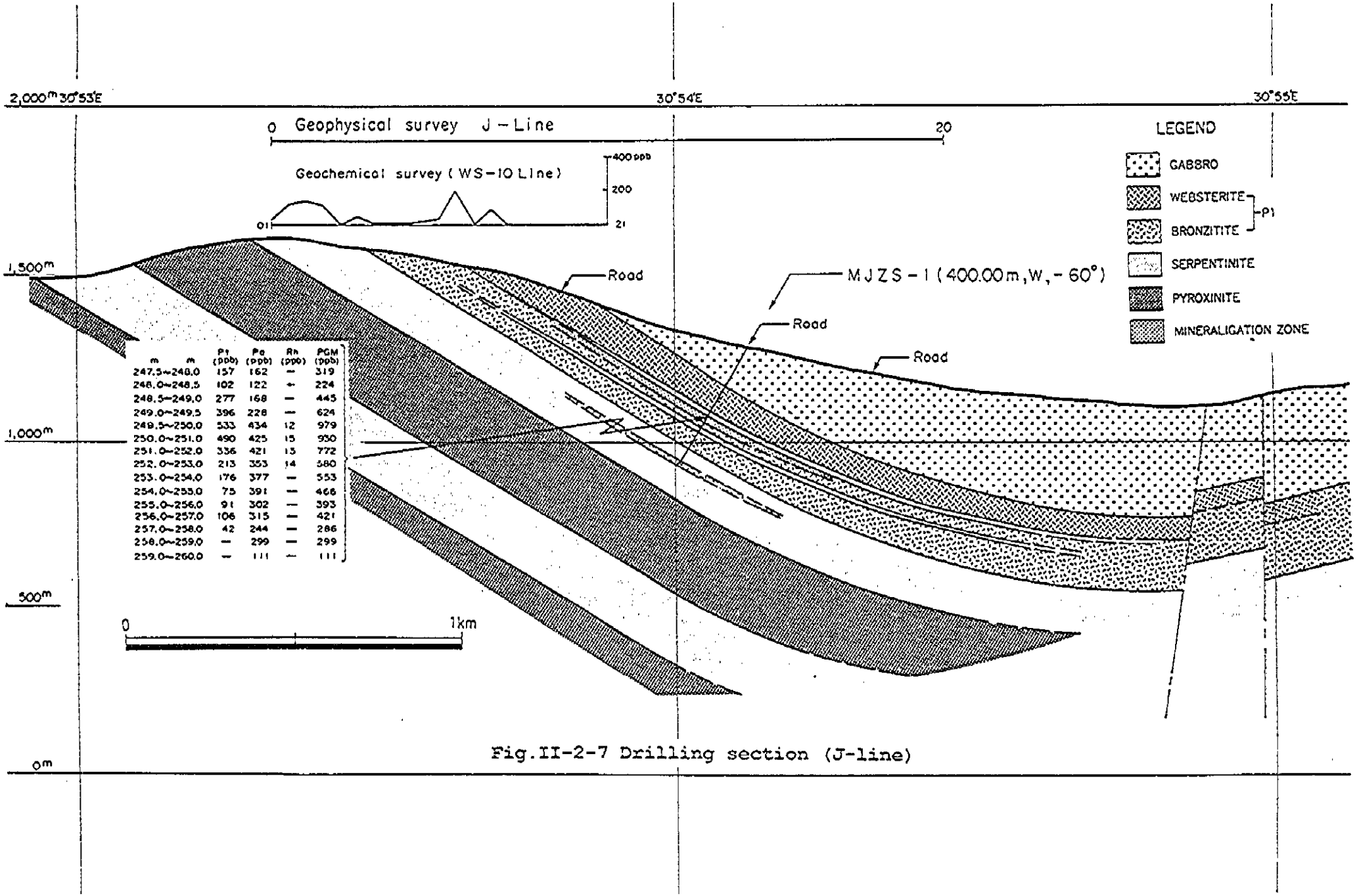


Fig.II-2-7 Drilling section (J-line)

293.00m--357.30 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. Grain size becomes coarse and increase a quantity of clinopyroxene directing for lower potion.

357.30m--390.10m Serpentinite (~Harzbergite)

Both contact part shows gray, pale green to olive green in color. Rock facies shows fine grain, soapy, and stripe form. Center part shows black in color, fine grain minute and hard. Mineral assemblage is almost all composed of olivine.

390.10m--400.00 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. Small vein of calcite and clay is accompanied.

The results of microscopic observation of thin section of rocks are as follows :

T-1 (170.00m) : Plagioclase bearing websterite.

Texture is coarse grain equigranular. Mineral assemblage is mainly composed of clinopyroxene and orthopyroxene (more than 98%) and include extremely small quantity of anhedral plagioclase and opaque minerals. Grain size generally shows less than 5mm, average 2 to 3mm, and sometimes increase to 1cm. A quantity of clinopyroxene is more than a quantity of orthopyroxene, these pyroxene shows columnar and long-columnar shape. Exsolution texture is greatly developed in both these pyroxenes, clinopyroxene include a orthopyroxene parallel to (001) and orthopyroxene include a clinopyroxene parallel to (100). An extremely small quantity of chlorite is grown by alteration.

T-2 (229.50m) : Iron ore - calcite - amphibole rock.

An original rock is a serpentinite. Texture of an original rock disappears completely by alteration. An actinolite occupy the majority, and a middle quantity of calcite and a small quantity of opaque mineral (magnetite?) are admitted.

T-3 (247.00m) : Bronzitite.

Texture is coarse grain equigranular. Mineral assemblage is mainly composed of orthopyroxene (more than 98%) and include a small quantity of plagioclase, extremely small quantity of opaque mineral and clinopyroxene, negligible small quantity of biotite and amphibole (less than 0.1%). Orthopyroxene shows less than 5mm, average 2 to 3mm, and shows columnar and long-columnar form. Exsolution texture of clinopyroxene parallel to (100) is developed, and shows a pleochroism (X=light purple brown, Z=pale green). Extremely small quantity of chlorite is grown by alteration.

(2) MJZS-2 (500.00m)

The bed rock appears after the red soil portion of 1.69

meters.

1.69m--184.18m Gabbro

It shows multi-color of green, dark green and white, and fine grain, minute , hard. Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of plenty of plagioclase, and orthopyroxene, a small quantity of clinopyroxene. White and pale green, coarse grain part is recognized in some parts, weak weathered zone is admitted along to crushed zone. Mineral assemblage change directing to lower portion, center potion is composed of about same quantity of plagioclase and orthopyroxene, and a small quantity of clinopyroxene is accompanied, lower portion is composed of a small quantity of plagioclase, and about equal quantity of orthopyroxene and clinopyroxene.

184.18m--266.00m Websterite

It shows dark green in color, and medium to coarse grain, Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of orthopyroxene and clinopyroxene, these two pyroxenes are about equal quantity, or quantity of orthopyroxene is little more than clinopyroxene. A small quantity of sulphide dissemination which mainly composed of pyrite, pyrrhotite and chalcopyrite accompanied. Small vein of chlorite, serpentine and epidote is admitted in websterite layer.

266.00m--302.40 Bronzitite

Contact of websterite and bronzitite change gradually. It shows dark green to dark gray in color. Texture is a fine grain, holocrystalline and equigranular. Mineral assemblage is almost all composed of orthopyroxene and include a extremely small quantity of clinopyroxene. Uppermost of this layer include sulphide dissemination which mainly composed of pyrite, pyrrhotite and chalcopyrite.

302.40m--307.98m Serpentinite (~Harzbergite)

It shows pale gray, pale green and olive green in color. Rock facies shows fine grain, soapy, soft and stripe form. Mineral assemblage is almost all composed of olivine.

307.98m--384.08 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. Grain size become coarse and include a comparatively large quantity of clinopyroxene. Dolerite dyke which shows olive green in color and cross to the hole about 70 degree is admitted from 351.50m to 354.00m in depth.

384.08m--394.70m Serpentinite (~Harzbergite)

It shows black in color. Rock facies shows fine grain, soapy, and stripe form. Center part shows gray, pale green and olive green in color. Mineral assemblage is almost all composed

of olivine.

394.70m--472.38 Bronzitite

Rock facies is similar to the upper bronzitite. It shows green to pale green in color, medium grain, holocrystalline and equigranular texture. Mineral assemblage is almost all composed of orthopyroxene and include a small quantity of clinopyroxene.

472.38m--500.00m Serpentinite (~Harzbergite)

It shows black in color. Rock facies of upper contact zone shows gray, pale green and olive green in color, fine grain, soapy, and stripe form. Mineral assemblage is almost all composed of olivine. Center part characteristically shows a white mottled pattern of 3 to 5cm diameter concentrating a large crystal of plagioclase, olivine and etc.

The results of microscopic observation of thin section of rocks are as follows :

T-4 (170.00m) : Gabbro-norite.

Texture is medium grain and equigranular, average grain size is 1.5mm. Mineral assemblage is composed of plagioclase, clinopyroxene and orthopyroxene from abundant to rare, and include an extremely small quantity of opaque minerals. Plagioclase shows less than 3.5mm of grain size, columnar to long-columnar, euhedral to subhedral shape, and shows polysynthetic twin shape but not shows zonal structure. Orthopyroxene shows less than 3mm of grain size, and shows a very weak pleochroism. Clinopyroxene shows less than 2mm of grain size, columnar and subhedral shape. these two pyroxenes show clear exsolution texture each other. Pigionite is not admitted. An Extremely small quantity of chlorite is grown along to the outer rim of grain and cleavage by alteration.

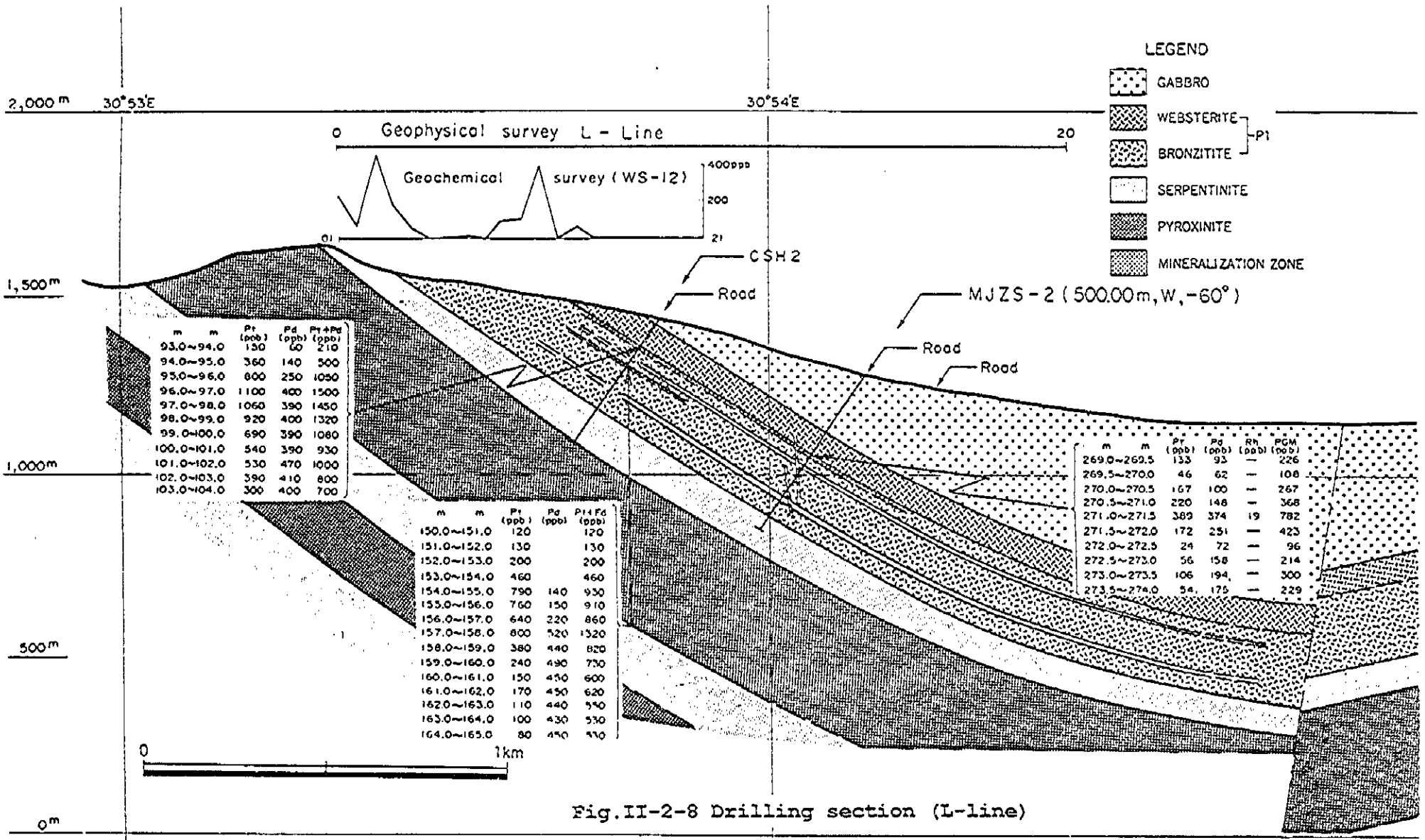
T-5 (190.18m) : Plagioclase bearing websterite.

Texture is coarse grain equigranular, average grain size is 2 to 3mm. Mineral assemblage is mainly composed of clinopyroxene and orthopyroxene (more than 98%) and include a small to an extremely small quantity of anhedral plagioclase and opaque minerals. Orthopyroxene shows less than 3.5mm of grain size, columnar, subhedral shape and shows a very weak pleochroism. Clinopyroxene shows less than 6.5mm of grain size, columnar to long-columnar and subhedral shape. these two pyroxene shows clear exsolution texture each other. A quantity of clinopyroxene is more than orthopyroxene. An extremely small quantity of plagioclase is admitted as an anhedral Crystal which filled a grain boundary of these two pyroxenes. Alteration is very weak.

This sample is very similar to T-1 sample.

T-6 (274.00m) : Bronzitite.

Texture is coarse grain equigranular, average grain size is



m	m	Pt (ppb)	Pd (ppb)	Pt+Pd (ppb)
93.0~94.0		150	60	210
94.0~95.0		360	140	500
95.0~96.0		800	250	1050
96.0~97.0		1100	400	1500
97.0~98.0		1060	390	1450
98.0~99.0		920	400	1320
99.0~100.0		690	390	1080
100.0~101.0		540	390	930
101.0~102.0		530	470	1000
102.0~103.0		390	410	800
103.0~104.0		300	400	700

m	m	Pt (ppb)	Pd (ppb)	Pt+Pd (ppb)
150.0~151.0		120		120
151.0~152.0		130		130
152.0~153.0		200		200
153.0~154.0		460		460
154.0~155.0		790	140	930
155.0~156.0		760	150	910
156.0~157.0		640	220	860
157.0~158.0		800	520	1320
158.0~159.0		380	440	820
159.0~160.0		240	490	730
160.0~161.0		150	450	600
161.0~162.0		170	450	620
162.0~163.0		110	440	550
163.0~164.0		100	430	530
164.0~165.0		80	450	530

m	m	Pt (ppb)	Pd (ppb)	Rh (ppb)	PGM (ppb)
269.0~269.5		133	93	—	226
269.5~270.0		46	62	—	108
270.0~270.5		167	100	—	267
270.5~271.0		220	148	—	368
271.0~271.5		389	374	19	782
271.5~272.0		172	251	—	423
272.0~272.5		24	72	—	96
272.5~273.0		56	158	—	214
273.0~273.5		106	194	—	300
273.5~274.0		54	175	—	229

Fig.II-2-8 Drilling section (L-line)

2 to 3mm. Mineral assemblage is mainly composed of orthopyroxene (more than 98%) and include a small quantity of plagioclase, An extremely small quantity of opaque mineral, negligible small quantity of biotite and amphibole. Orthopyroxene shows less than 7mm of grain size, columnar to long-columnar, euhedral to subhedral shape. and shows a pleochroism (X=light purple brown, Z=pale green). Exsolution texture of clinopyroxene is developed. Plagioclase is admitted as an anhedral Crystal which filled a grain boundary of these two pyroxene, grain size is less than 1mm. Amphibole shows an anhedral shape with pleochroism (X=light yellow, Z=pale green), and grain size is less than 0.7mm. Biotite shows an anhedral shape, and grain size is less than 0.4mm. Negligible weak alteration is admitted.

This sample is similar to T-3 sample.

T-7 (401.50m) : Bronzitite.

Texture is coarse grain equigranular, average grain size is 1.5mm. Mineral assemblage is mainly composed of orthopyroxene (more than 98%) and include an extremely small quantity of opaque minerals. Orthopyroxene shows less than 4mm of grain size, columnar, subhedral shape. and shows a weak pleochroism. Exsolution texture is developed. Plagioclase is not admitted. A Small quantity of talc is grown along to grain boundary and crack.

This sample is different to T-3 sample because of small grain size and a small quantity of opaque minerals.

T-8 (486.00m) : Dunite.

Texture is coarse grain equigranular, average grain size is 2mm. Mineral assemblage is mainly composed of olivine (more than 99%) and include a small quantity of euhedral to subhedral opaque mineral(chromite). Olivine shows less than 6mm of grain size, subhedral shape. and serpentinization increase along to the outer rim of crystal and crack. Remarkable quantity of talc is grown by alteration.

(3) MJZS-3 (500.30m)

The bed rock appears after the red soil portion of 3 meters.

3.00m--188.49m Gabbro

It shows green to dark green in color, and medium to coarse grain, minute, hard. Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of plenty of plagioclase, and orthopyroxene with green to pale green in color, clinopyroxene with light purple in color. White and pale green part is recognized in some parts, weak weathered zone with small vein of calcite, chlorite and quartz is admitted along to crushed zone.

188.49m--263.58m Websterite

It shows green to dark green in color, and medium to coarse grain, Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of orthopyroxene and clinopyroxene, these two pyroxenes are about equal quantity, or quantity of orthopyroxene is little more than clinopyroxene. Some part become fine grain, clinopyroxene with light purple in color is observed clearly as s spot.

263.58m--393.50 Bronzitite

It shows green to dark green in color. Texture is a medium to coarse grain, holocrystalline and equigranular. Mineral assemblage is almost all composed of orthopyroxene (green to dark green in color) and include an extremely small quantity of clinopyroxene (light purple in color). Uppermost and middle of this layer include two layer of sulphide dissemination zone which mainly composed of pyrite, pyrrhotite and chalcopyrite and small calcite vein. Sulphide generally shows euhedral and extremely small grain or film shape, anhedral sulphide which filled in grain boundary is admitted in comparatively high concentrate part of sulphide.

398.50m--400.00m Serpentinite (~Harzbergite)

Both contact change gradually. It shows a black to light gray in color. Rock facies shows fine grain, soapy, soft and stripe form. Mineral assemblage is mainly composed of olivine, magnetite and chromite.

400.00m--3475.88 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. a comparatively large quantity of clinopyroxene is included. There is almost no dissemination of sulphide and a small vein of chlorite is admitted.

375.88m--487.64m Serpentinite (~Harzbergite)

Both contact change gradually. It shows a black in color. Rock facies shows fine grain, soapy, and stripe form. Some part shows gray, pale green, olive green in color, and strongly serpentinized. Mineral assemblage is almost all composed of olivine and magnetite accompanied.

487.64m--500.30 Bronzitite

Rock facies is similar to the upper bronzitite. It shows green to olive green in color, medium grain, holocrystalline and equigranular texture. Mineral assemblage is composed of about equal quantity of orthopyroxene and clinopyroxene.

(4) MJZS-4 (300.00m)

The bed rock appears after the red and gray soil portion of 12.70 meters.

12.70m--56.70m Websterite

It shows green to dark green in color, and medium to coarse grain. Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of orthopyroxene and clinopyroxene, these two pyroxenes are about equal quantity. An extremely small quantity of sulphide dissemination is admitted.

56.70m--130.70m Bronzitite

It shows green to olive green in color. Texture is a coarse grain, holocrystalline and equigranular. Mineral assemblage is almost all composed of orthopyroxene (green to dark green in color) and include a small quantity of columnar clinopyroxene. Small vein of calcite is admitted and sulphide dissemination zone which mainly composed of pyrite, pyrrhotite and chalcopyrite is recognized from 70.00m to 87.00m. Dolerite dyke is also admitted from 110.60m to 111.20m.

130.70m--136.00m Serpentinite (~Harzbergite)

It shows black to light gray and partly green in color. Rock facies shows fine grain, soapy and stripe form.

136.00m--216.00 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. Sulphide dissemination zone is recognized from 143.00m to 153.00m. Dolerite dyke is also admitted from 163.00m to 166.00m, 176.50m to 178.30m, and 190.00m to 190.80m. Many small veins of chlorite are admitted.

216.00m--222.00m Serpentinite (~Harzbergite)

It shows black, gray and olive green in color. Rock facies shows fine grain, soapy, minute, soft, and stripe form. Mineral assemblage is almost all composed of olivine. Lower portion of this layer shows coarse grain and white mottled pattern.

222.00m--300.00 Bronzitite

Rock facies is similar to upper the bronzitite. It shows green to olive green in color, coarse grain, holocrystalline and equigranular texture. Mineral assemblage is composed of almost all of orthopyroxene and include a small quantity of clinopyroxene. Many small vein of calcite and chlorite is admitted, Felsic rock dyke is also admitted from 237.50m to 238.00m, 251.00m to 251.60m, and 256.50m to 257.00m.

(5) MJZS-5 (400.44m)

The bed rock appears after the red soil portion of 6.89 meters.

6.89m--25.07m Gabbro

It shows green to dark green in color, and fine grain, minute , hard. Texture is holocrystalline and equigranular. White and pale green in color, weathered clay zone is recognized in some parts.

25.07m--148.34m Websterite

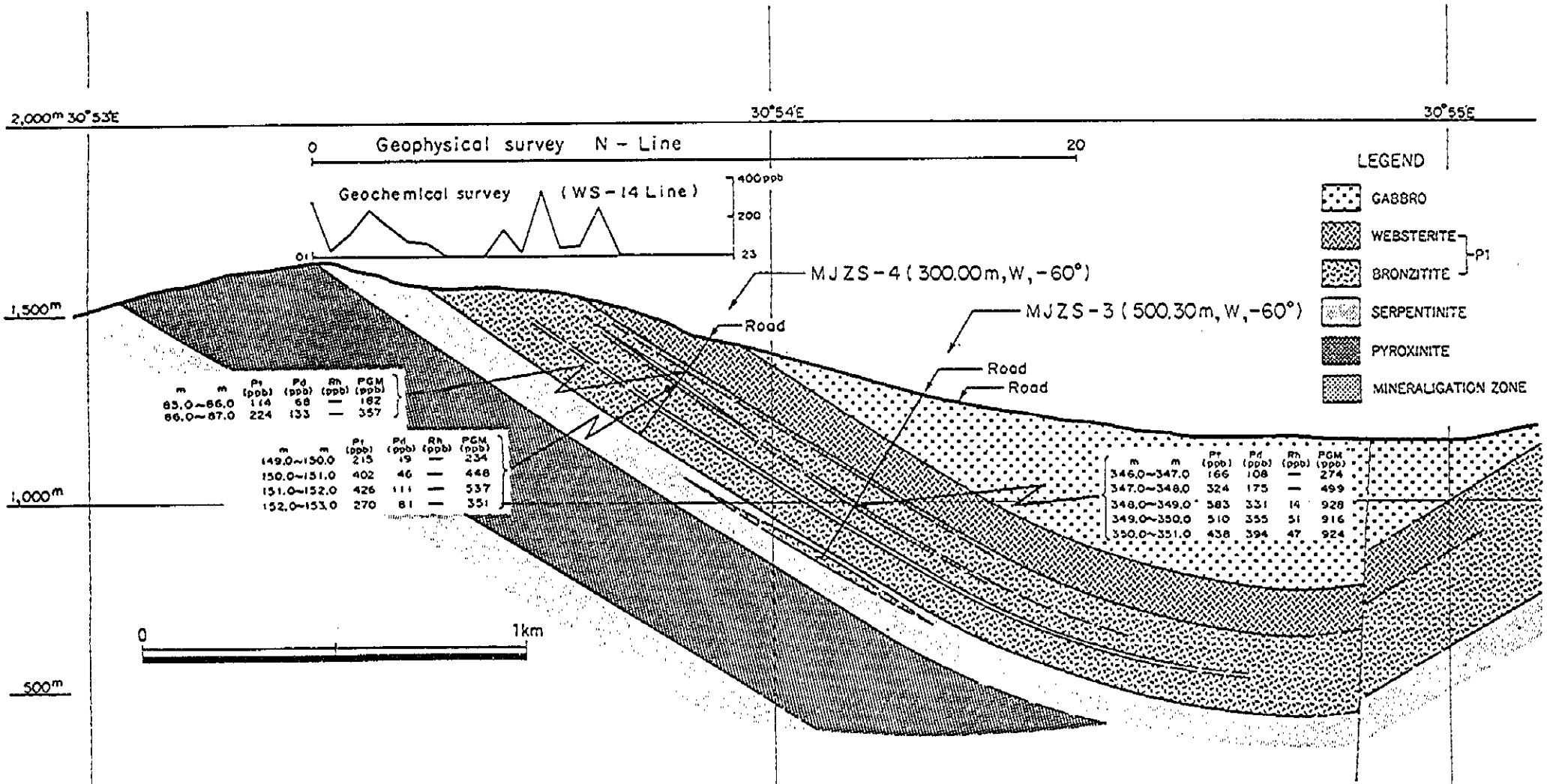


Fig.II-2-9 Drilling section (N-line)

It shows green to dark green in color, and medium grain. Texture is holocrystalline and equigranular. Mineral assemblage is mainly composed of orthopyroxene and clinopyroxene, these two pyroxenes are about equal quantity. A small quantity of sulphide dissemination is admitted in upper and center portion of websterite layer.

184.34m--159.00m Serpentinite (~Harzbergite)

Both contact change gradually. It shows black, dark green, pale green in color. Rock facies shows fine grain, soapy, and stripe or mesh form. Mineral assemblage is almost all composed of olivine.

159.00m--229.50 Bronzitite

It shows green to dark green in color. Texture is a medium grain, holocrystalline and equigranular. Mineral assemblage is almost all composed of orthopyroxene. Uppermost of this layer (160.00m to 172.50m) include sulphide dissemination which mainly composed of pyrite, pyrrhotite and chalcopyrite.

229.50m--243.04m Serpentinite (~Harzbergite)

It shows black to olive green in color. Rock facies shows fine grain, soapy, soft. Both boundary portion shows stripe form and center portion shows mesh like pattern. Mineral assemblage is composed of olivine and serpentine.

243.04m--310.30 Bronzitite

Mineral assemblage and rock facies is similar to the upper bronzitite. A comparatively large quantity of clinopyroxene is accompanied. there is no sulphide dissemination, A small vein of calcite is admitted.

310.30m--400.00m Serpentinite (~Harzbergite)

Upper portion of this layer shows multi-color of white, pale green, green and dark green. Rock facies shows fine grain, soapy, soft and stripe form. Dolerite dyke is admitted from 326.76m to 337.74m. Lower portion under the dolerite dyke shows dark green to black in color and becomes comparatively fresh. Coarse grain white mottled pattern, white spot of calcite and pale green stripe pattern is recognized in some place.

The results of microscopic observation of thin section of rocks are as follows :

T-9 (317.20m) : Talc vein ? .

It shows transparent to light brown in color, fibrous distort texture. Mineral assemblage is almost all composed of talc and an extremely small quantity of opaque minerals, one grain of clinopyroxene are admitted. This may be produced by hydro-thermal alteration.

T-10 (340.52m) : Serpentinite(dunite).

Original rock is dunite that is almost all composed of olivine and extremely small quantity of opaque minerals. A

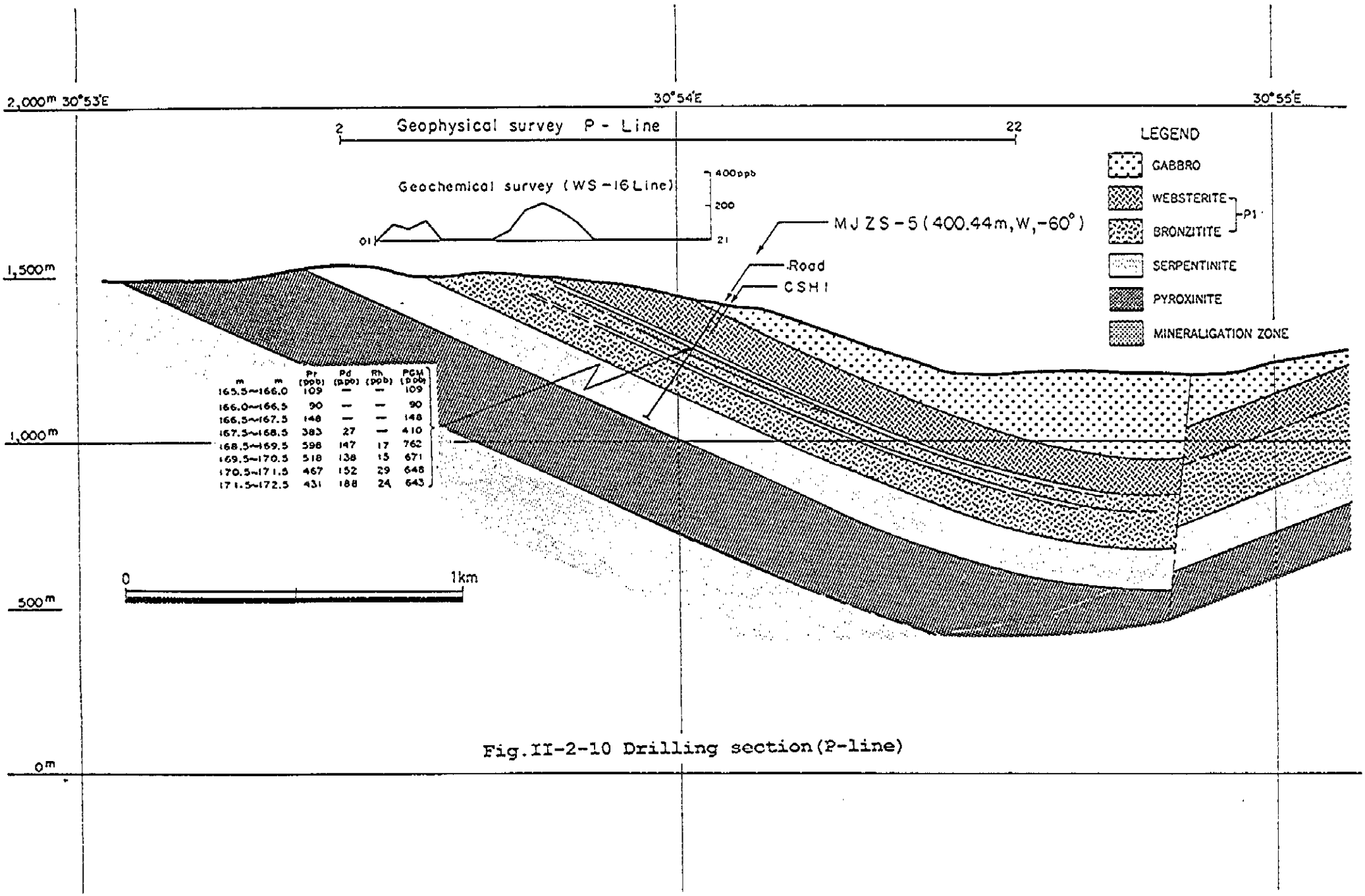


Fig.II-2-10 Drilling section(P-line)

Table II-2-10 Results of the microscopic observations of thin section of rock samples

Number	Sample name	Rock name	Rock name defined by microscopic obervation	Location		Mineral assemblages													Texture
						Phenocrysts								Alteration minerals					
				Drill number	Depth(m)	Plagioclase	Biotite	Hornblende	Clinopyroxene	Orthopyroxene	Augite	Olivine	Opaque mineral	Tremolite	Calcite	Chlorite	Serpentine	Talc	
1	T-1	Websterite	Websterite	MJZS-1	170.00	△			◎	◎			△			・			Coarse grain, equigranular
2	T-2	Serpentinite	Iron ore-calcite-amphibole rock	MJZS-1	229.50								△	◎	○				
3	T-3	Bronzitite	Bronzitite	MJZS-1	249.50	・	・	・	・	◎			△						Coarse grain, equigranular
4	T-4	Gabbro	Gabbro-norite	MJZS-2	115.88	◎					◎	○	・			・			Medium grain, equigranular
5	T-5	Websterite	Websterite	MJZS-2	190.18	△			◎	◎			△			・			Coarse grain, equigranular
6	T-6	Bronzitite	Bronzitite	MJZS-2	274.00	△	・	・		◎			・			・			Coarse grain, equigranular
7	T-7	Pyroxinite	Bronzitite	MJZS-2	401.50					◎			・					・	Coarse grain, equigranular
8	T-8	Harzburgite	Dunite	MJZS-2	486.00					◎			・				・	・	Coarse grain, equigranular
9	T-9	Harzburgite	Talc rock	MJZS-5	317.20				・				△					◎	
10	T-10	Harzburgite	Serpentinite	MJZS-5	340.25								△		△		◎	○	

※ ◎ : abundance ○ : common △ : minor ・ : rare

plenty of serpentine, middle quantity of talc, a small quantity of calcite and opaque minerals are produced by almost complete alteration.

2-2-2 Mineralization

Geologic cross section by drilling were shown in Fig.II-2-7 to Fig.II-2-10. The results of microscopic observation for polish section of ores are shown in Table II-2-11. The results of chemical analysis of ores are shown in Table II-1-12. The results of EPMA analysis are shown in Table II-2-13. Log showing of chemical analysis of each holes are shown in Fig.II-2-11.

Summary of mineralization in each hole are as follows :

(1) MJZS-1

Sulphide dissemination was observed from serpentinite layer which exist in contact zone between websterite and bronzitite layer to uppermost of the bronzitite layer (226m-260m). This mineralization is mainly composed of pyrrhotite, pyrite and accompany an extremely small quantity of chalcopyrite. Grain size is maximum 2mm, generally less than 1mm and around 0.5mm. these minerals show euhedral usually and irregular anhedral mineral that filled a grain boundary is also recognized. These sulphide content is estimated maximum about 3%.

Though platinum group minerals can't be observed by naked eye, by the result of chemical analysis these minerals concentrate in the lowest portion of sulphide disseminate zone and show maximum platinum group elements content 979ppb.

Results of microscopic observation of ore polish samples are as follows.

P-8 (230.80m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite. Pyrrhotite shows irregular shape 0.1 to 2mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Chalcopyrite shows irregular shape 0.02 to 0.2mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.1mm size and is observed assembled with the pyrrhotite and the chalcopyrite.

P-9 (232.20m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite. Pyrrhotite shows irregular shape 0.1 to 2mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Chalcopyrite shows irregular shape

Table II-2-11 Results of the microscopic observations of polished section of ore samples

Number	Sample name	Rock name defined by microscopic obervation	Location		Sulphides										Oxide minerals						Others			Texture
			Drill number	Depth(m)	Pyrite	Marcasite	Pyrrhotite	Pentlandite	Chalcopyrite	Bornite	Mackinawite	Talnakhite	Valleriite	Sphalerite	Magnetite	Goethite	Hematite	Chromite	Malachite	Quartz	Carbonates	Other gangue minerals	
1	P-1	Bronzitite	MJZS-3	289.20			◎	○	○		・	・											disseminate, exsolution
2	P-2	Bronzitite	MJZS-3	341.10	・	△	◎	○	○					・				・					disseminate, exsolution, micrograghic
3	P-3	Bronzitite	MJZS-5	164.80			◎	○	○					・									disseminate
4	P-4	Bronzitite	MJZS-5	165.70			◎	○	○	・		・											disseminate, exsolution
5	P-5	Bronzitite	MJZS-2	269.80		△	◎	○	○				・										disseminate, exsolution, micrograghic
6	P-6	Bronzitite	MJZS-2	270.30	・	△	◎	○	○														disseminate, exsolution, micrograghic
7	P-7	Bronzitite	MJZS-2	271.60		△	◎	○	○														disseminate, micrograghic
8	P-8	Bronzitite	MJZS-1	230.80			○	・	・														disseminate
9	P-9	Bronzitite	MJZS-1	232.20			・	・	・					・									disseminate
10	P-10	Bronzitite	MJZS-1	232.70			△	△	△		・			・	・								disseminate, exsolution
11	P-11	Bronzitite	MJZS-1	243.30		△	◎	○	○														disseminate
12	P-12	Bronzitite	MJZS-4	70.70			◎	○	○														disseminate
13	P-13	Bronzitite	MJZS-4	82.15			◎	○	○														disseminate, exsolution
14	P-14	Bronzitite	MJZS-4	148.75		△	◎	○	○					・									disseminate, exsolution

※ ◎ : abundance ○ : common △ : minor ・ : rare

Table II-2-12 Results of EPMA analysis (I)

NO.	Sample					Au	Ag	Cu	Co	Ni	Pt	Pd	Rh	S
	Name	No.	From(m)	To(m)	L(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(ppb)	(%)
1	MJZS-3	1	263.50	264.50	1.00	2	2.70	260	64	546	< 10	< 10	< 10	0.17
2	MJZS-3	2	264.50	265.50	1.00	2	0.17	254	65	591	< 10	< 10	< 10	0.17
3	MJZS-3	3	265.50	266.50	1.00	< 1	0.42	257	63	588	< 10	< 10	< 10	0.16
4	MJZS-3	4	266.50	267.50	1.00	< 1	0.16	265	69	639	< 10	< 10	< 10	0.17
5	MJZS-3	5	267.50	268.00	0.50	< 1	0.28	249	66	579	13	< 10	< 10	0.16
6	MJZS-3	6	268.00	268.50	0.50	< 1	3.57	280	70	625	< 10	< 10	< 10	0.17
7	MJZS-3	7	268.50	269.00	0.50	< 1	1.40	283	70	619	< 10	< 10	< 10	0.17
8	MJZS-3	8	269.00	269.50	0.50	2	1.20	301	71	643	< 10	< 10	< 10	0.17
9	MJZS-3	9	269.50	270.50	1.00	< 1	0.60	252	65	588	< 10	< 10	< 10	0.15
10	MJZS-3	10	270.50	271.50	1.00	1	0.40	241	69	582	< 10	< 10	< 10	0.17
11	MJZS-3	11	271.50	272.50	1.00	< 1	0.43	229	66	546	< 10	< 10	< 10	0.14
12	MJZS-3	12	272.50	273.50	1.00	< 1	0.31	246	72	597	< 10	< 10	< 10	0.16
13	MJZS-3	13	335.00	336.00	1.00	3	0.10	404	85	901	< 10	< 10	< 10	0.18
14	MJZS-3	14	336.00	337.00	1.00	6	0.30	384	82	893	< 10	< 10	< 10	0.18
15	MJZS-3	15	337.00	338.00	1.00	5	1.02	474	105	1030	< 10	14	< 10	0.18
16	MJZS-3	16	338.00	339.00	1.00	11	0.71	520	105	1120	< 10	15	< 10	0.20
17	MJZS-3	17	339.00	340.00	1.00	7	0.12	475	104	1080	< 10	13	< 10	0.18
18	MJZS-3	18	340.00	341.00	1.00	14	1.43	546	111	1240	11	< 10	< 10	0.21
19	MJZS-3	19	341.00	341.50	0.50	6	0.15	413	101	910	< 10	< 10	< 10	0.16
20	MJZS-3	20	341.50	342.00	0.50	9	0.49	399	100	911	< 10	< 10	< 10	0.14
21	MJZS-3	21	342.00	342.50	0.50	12	0.56	496	108	1110	< 10	24	< 10	0.20
22	MJZS-3	22	342.50	343.00	0.50	11	0.10	519	106	1140	< 10	< 10	< 10	0.20
23	MJZS-3	23	343.00	343.50	0.50	24	0.20	672	112	1280	< 10	16	< 10	0.25
24	MJZS-3	24	343.50	344.00	0.50	24	0.13	682	115	1380	29	16	< 10	0.27
25	MJZS-3	25	344.00	345.00	1.00	20	0.14	564	112	1200	45	23	< 10	0.23
26	MJZS-3	26	345.00	346.00	1.00	20	0.20	492	108	1110	44	29	< 10	0.20
27	MJZS-3	27	346.00	347.00	1.00	45	0.10	557	106	1220	166	108	< 10	0.22
28	MJZS-3	28	347.00	348.00	1.00	36	0.10	544	112	1340	324	175	< 10	0.25
29	MJZS-3	29	348.00	349.00	1.00	48	0.10	562	112	1420	583	331	14	0.25
30	MJZS-3	30	349.00	350.00	1.00	40	0.24	378	104	1070	510	355	51	0.18
31	MJZS-3	31	350.00	351.00	1.00	25	0.18	361	108	1030	438	394	47	0.15
32	MJZS-5	1	160.00	161.00	1.00	< 1	0.09	49	95	620	9	36	< 10	0.03
33	MJZS-5	2	161.00	162.00	1.00	5	0.30	660	106	1280	13	< 10	< 10	0.22
34	MJZS-5	3	162.00	163.00	1.00	12	0.81	665	103	1350	32	< 10	< 10	0.22
35	MJZS-5	4	163.00	164.00	1.00	15	0.46	756	105	1430	56	< 10	< 10	0.25
36	MJZS-5	5	164.00	164.50	0.50	10	0.40	696	104	1320	43	< 10	< 10	0.24
37	MJZS-5	6	164.50	165.00	0.50	8	0.26	656	107	1290	57	< 10	< 10	0.22
38	MJZS-5	7	165.00	165.50	0.50	18	0.22	687	107	1300	47	< 10	< 10	0.22
39	MJZS-5	8	165.50	166.00	0.50	18	0.24	748	109	1380	109	< 10	< 10	0.26
40	MJZS-5	9	166.00	166.50	0.50	18	0.23	668	107	1280	90	< 10	< 10	0.22
41	MJZS-5	10	166.50	167.50	1.00	26	0.26	616	104	1220	148	< 10	< 10	0.21
42	MJZS-5	11	167.50	168.50	1.00	98	0.16	635	106	1290	383	27	< 10	0.23
43	MJZS-5	12	168.50	169.50	1.00	22	0.20	265	100	1050	598	147	17	0.12
44	MJZS-5	13	169.50	170.50	1.00	13	0.17	235	94	1020	518	138	15	0.10
45	MJZS-5	14	170.50	171.50	1.00	8	0.16	131	96	980	467	152	29	0.08
46	MJZS-5	15	171.50	172.50	1.00	7	0.08	119	95	986	431	188	24	0.07
47	MJZS-2	1	266.00	266.50	0.50	5	0.32	450	81	916	19	< 10	< 10	0.22
48	MJZS-2	2	266.50	267.00	0.50	4	0.29	434	83	890	19	< 10	< 10	0.18
49	MJZS-2	3	267.00	267.50	0.50	5	0.26	481	92	997	17	10	< 10	0.20
50	MJZS-2	4	267.50	268.00	0.50	4	0.15	388	88	909	< 10	< 10	< 10	0.16
51	MJZS-2	5	268.00	268.50	0.50	3	0.12	335	97	811	15	29	< 10	0.13
52	MJZS-2	6	268.50	269.00	0.50	7	0.17	418	102	1100	69	36	< 10	0.23
53	MJZS-2	7	269.00	269.50	0.50	15	0.33	757	112	1390	133	93	< 10	0.31
54	MJZS-2	8	269.50	270.00	0.50	14	0.51	725	110	1300	46	62	< 10	0.29
55	MJZS-2	9	270.00	270.50	0.50	17	0.21	589	108	1110	167	100	< 10	0.20
56	MJZS-2	10	270.50	271.00	0.50	15	0.19	634	110	1260	220	148	< 10	0.25
57	MJZS-2	11	271.00	271.50	0.50	25	0.23	399	105	1010	389	374	19	0.17
58	MJZS-2	12	271.50	272.00	0.50	4	0.12	155	100	745	172	251	< 10	0.08
59	MJZS-2	13	272.00	272.50	0.50	< 1	0.06	42	98	588	24	72	< 10	0.03
60	MJZS-2	14	272.50	273.00	0.50	3	0.04	59	98	608	56	158	< 10	0.04
61	MJZS-2	15	273.00	273.50	0.50	2	0.21	91	92	614	106	194	< 10	0.06
62	MJZS-2	16	273.50	274.00	0.50	2	0.05	68	97	656	54	175	< 10	0.04
63	MJZS-1	1	226.70	227.70	1.00	< 1	0.09	169	110	1080	< 10	< 10	< 10	0.15
64	MJZS-1	2	227.70	228.50	0.80	1	0.10	279	73	707	14	< 10	< 10	0.16
65	MJZS-1	3	228.50	229.00	0.50	< 1	0.07	248	68	689	< 10	< 10	< 10	0.16
66	MJZS-1	4	229.00	229.50	0.50	2	0.03	207	72	741	< 10	< 10	< 10	0.19
67	MJZS-1	5	229.50	230.00	0.50	< 1	0.11	322	67	703	< 10	< 10	< 10	0.13
68	MJZS-1	6	230.00	230.50	0.50	< 1	0.18	224	48	500	< 10	< 10	< 10	0.09
69	MJZS-1	7	230.50	231.00	0.50	1	0.14	374	69	694	< 10	< 10	< 10	0.16
70	MJZS-1	8	231.00	231.50	0.50	3	0.12	376	73	751	< 10	< 10	< 10	0.19
71	MJZS-1	9	231.50	232.00	0.50	1	0.12	313	77	707	< 10	< 10	< 10	0.18
72	MJZS-1	10	232.00	232.50	0.50	< 1	0.10	284	75	766	< 10	< 10	< 10	0.17

Table II-2-12 Results of EPMA analysis (II)

NO.	Saple					Au	Ag	Cu	Co	Ni	Pt	Pd	Rh	S
	Nase	No.	From(m)	To(m)	L(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)	(ppb)	(ppb)	(%)
73	MJZS-1	11	232.50	233.00	0.50	< 1	0.05	323	76	763	< 10	< 10	< 10	0.18
74	MJZS-1	12	233.00	233.50	0.50	2	0.12	343	73	792	< 10	< 10	< 10	0.18
75	MJZS-1	13	233.50	234.00	0.50	2	0.09	358	75	804	< 10	< 10	< 10	0.19
76	MJZS-1	14	234.00	234.50	0.50	2	0.12	301	73	759	< 10	< 10	< 10	0.11
77	MJZS-1	15	234.50	235.00	0.50	2	0.13	332	77	796	< 10	< 10	< 10	0.17
78	MJZS-1	16	235.00	235.50	0.50	3	0.14	375	78	844	< 10	< 10	< 10	0.19
79	MJZS-1	17	235.50	236.00	0.50	2	0.11	369	76	813	< 10	< 10	< 10	0.20
80	MJZS-1	18	236.00	236.50	0.50	3	0.16	466	79	890	< 10	< 10	< 10	0.14
81	MJZS-1	19	236.50	237.00	0.50	3	0.11	363	76	813	14	< 10	< 10	0.20
82	MJZS-1	20	237.00	237.50	0.50	5	0.11	410	81	888	< 10	< 10	< 10	0.22
83	MJZS-1	21	237.50	238.00	0.50	5	0.12	403	85	895	< 10	11	< 10	0.20
84	MJZS-1	22	238.00	238.50	0.50	3	0.03	394	82	875	< 10	< 10	< 10	0.20
85	MJZS-1	23	238.50	239.00	0.50	7	0.16	408	83	879	32	< 10	< 10	0.20
86	MJZS-1	24	239.00	239.50	0.50	5	0.03	439	84	908	13	< 10	< 10	0.19
87	MJZS-1	25	239.50	240.00	0.50	4	0.10	426	84	897	13	< 10	< 10	0.19
88	MJZS-1	26	240.00	240.50	0.50	3	0.10	336	97	816	< 10	15	< 10	0.12
89	MJZS-1	27	240.50	241.00	0.50	10	0.09	578	109	1210	< 10	12	< 10	0.26
90	MJZS-1	28	241.00	241.50	0.50	7	0.09	435	97	944	21	< 10	< 10	0.18
91	MJZS-1	29	241.50	242.00	0.50	12	0.18	466	104	1020	< 10	44	< 10	0.18
92	MJZS-1	30	242.00	242.50	0.50	25	0.68	463	104	1040	< 10	< 10	< 10	0.18
93	MJZS-1	31	242.50	243.00	0.50	33	0.19	565	109	1250	11	< 10	< 10	0.23
94	MJZS-1	32	243.00	243.50	0.50	14	0.17	503	101	1090	13	< 10	< 10	0.19
95	MJZS-1	33	243.50	244.00	0.50	17	0.09	606	105	1300	< 10	< 10	< 10	0.26
96	MJZS-1	34	244.00	244.50	0.50	5	0.07	194	87	713	< 10	41	< 10	0.09
97	MJZS-1	35	244.50	245.00	0.50	3	0.03	163	98	757	17	20	< 10	0.18
98	MJZS-1	36	245.00	245.50	0.50	13	0.13	503	107	1120	13	< 10	< 10	0.18
99	MJZS-1	37	245.50	246.00	0.50	15	0.16	445	106	1070	22	12	< 10	0.18
100	MJZS-1	38	246.00	246.50	0.50	17	0.13	458	106	1080	30	31	< 10	0.21
101	MJZS-1	39	246.50	247.00	0.50	12	0.13	446	102	1050	15	37	< 10	0.08
102	MJZS-1	40	247.00	247.60	0.60	23	0.08	540	103	1150	76	76	< 10	0.20
103	MJZS-1	41	247.60	248.00	0.40	35	0.20	609	111	1380	157	162	< 10	0.26
104	MJZS-1	42	248.00	248.50	0.50	27	0.10	515	97	1090	102	122	< 10	0.21
105	MJZS-1	43	248.50	249.00	0.50	30	0.12	586	109	1230	277	168	< 10	0.22
106	MJZS-1	44	249.00	249.50	0.50	45	0.15	590	108	1260	396	228	< 10	0.22
107	MJZS-1	45	249.50	250.00	0.50	63	0.16	586	111	1280	533	434	12	0.24
108	MJZS-1	46	250.00	251.00	1.00	33	0.13	392	107	1070	490	425	15	0.16
109	MJZS-1	47	251.00	252.00	1.00	22	0.08	243	94	877	336	421	15	0.13
110	MJZS-1	48	252.00	253.00	1.00	12	0.05	165	101	808	213	353	14	0.08
111	MJZS-1	49	253.00	254.00	1.00	12	0.05	154	100	804	176	377	< 10	0.08
112	MJZS-1	50	254.00	255.00	1.00	8	0.45	155	97	818	75	391	< 10	0.10
113	MJZS-1	51	255.00	256.00	1.00	3	0.02	100	95	713	91	302	< 10	0.06
114	MJZS-1	52	256.00	257.00	1.00	4	0.02	123	92	690	106	315	< 10	0.06
115	MJZS-1	53	257.00	258.00	1.00	< 1	0.04	74	95	667	42	244	< 10	0.04
116	MJZS-1	54	258.00	259.00	1.00	< 1	0.07	56	92	651	< 10	299	< 10	0.01
117	MJZS-1	55	259.00	260.00	1.00	< 1	0.03	100	116	1000	< 10	111	< 10	0.08
118	MJZS-4	1	70.00	71.00	1.00	1	0.08	328	72	752	< 10	< 10	< 10	0.16
119	MJZS-4	2	71.00	72.00	1.00	< 1	0.10	403	72	753	< 10	< 10	< 10	0.16
120	MJZS-4	3	72.00	73.00	1.00	2	0.12	350	76	787	< 10	< 10	< 10	0.17
121	MJZS-4	4	73.00	74.00	1.00	2	0.12	327	75	767	< 10	< 10	< 10	0.16
122	MJZS-4	5	74.00	75.00	1.00	2	0.18	379	76	840	< 10	< 10	< 10	0.19
123	MJZS-4	6	75.00	76.00	1.00	3	0.10	377	76	845	< 10	< 10	< 10	0.19
124	MJZS-4	7	76.00	77.00	1.00	4	0.12	391	83	898	< 10	< 10	< 10	0.18
125	MJZS-4	8	77.00	78.00	1.00	5	0.42	360	78	921	< 10	< 10	< 10	0.19
126	MJZS-4	9	78.00	79.00	1.00	7	0.13	521	88	1120	< 10	17	< 10	0.24
127	MJZS-4	10	79.00	80.00	1.00	7	0.11	425	101	1030	< 10	< 10	< 10	0.18
128	MJZS-4	11	80.00	81.00	1.00	9	0.12	426	104	1120	< 10	< 10	< 10	0.20
129	MJZS-4	12	81.00	82.00	1.00	7	0.14	375	97	988	< 10	< 10	< 10	0.18
130	MJZS-4	13	82.00	83.00	1.00	25	0.15	544	108	1220	< 10	< 10	< 10	0.25
131	MJZS-4	14	83.00	84.00	1.00	13	0.14	359	97	957	< 10	< 10	< 10	0.17
132	MJZS-4	15	84.00	85.00	1.00	19	0.55	835	95	1060	< 10	14	< 10	0.32
133	MJZS-4	16	85.00	86.00	1.00	31	0.17	556	112	1310	114	68	< 10	0.24
134	MJZS-4	17	86.00	87.00	1.00	37	0.11	465	107	1260	224	133	< 10	0.23
135	MJZS-4	18	143.00	144.00	1.00	11	0.23	571	97	1200	< 10	< 10	< 10	0.18
136	MJZS-4	19	144.00	145.00	1.00	8	0.10	625	102	1330	< 10	< 10	< 10	0.21
137	MJZS-4	20	145.00	146.00	1.00	8	0.14	536	102	1160	< 10	< 10	< 10	0.17
138	MJZS-4	21	146.00	147.00	1.00	9	0.15	568	104	1190	35	< 10	< 10	0.18
139	MJZS-4	22	147.00	148.00	1.00	14	0.14	611	99	1150	< 10	< 10	< 10	0.20
140	MJZS-4	23	148.00	149.00	1.00	23	0.24	565	98	1100	86	< 10	< 10	0.23
141	MJZS-4	24	149.00	150.00	1.00	22	1.10	477	106	1350	215	19	< 10	0.22
142	MJZS-4	25	150.00	151.00	1.00	52	0.42	375	102	1660	402	46	< 10	0.19
143	MJZS-4	26	151.00	152.00	1.00	29	0.52	344	103	1620	426	111	< 10	0.18
144	MJZS-4	27	152.00	153.00	1.00	14	0.10	160	94	996	270	81	< 10	0.09

0.02 to 0.2mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.01 to 0.05mm size and is observed a small quantity assembled with the pyrrhotite and the chalcopyrite in the gangue minerals. Sphalerite shows irregular shape 0.005 to 0.01mm size and is observed accompanied with the pentlandite and the chalcopyriye.

P-10 (232.70m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite > magnetite > sphalerite > mackinawite. Pyrrhotite shows irregular shape 0.1 to 2mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Chalcopyrite shows irregular shape 0.02 to 0.2mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.3mm size and is observed assembled with the pyrrhotite and the chalcopyrite. pentlandite is also recognized as an exsolution products with the flame and foliated texture in many cases. Sphalerite and magnetite are observed a small quantity. Mackinawite is observed as a foliated exsolution products in the chalcopyrite.

P-11 (243.30m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > pentlandite > chalcopyrite > marcasite. Pyrrhotite shows irregular shape 0.05 to 0.5mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Pentlandite shows euhedral and granular shape 0.05 to 0.3mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Chalcopyrite shows irregular shape 0.05 to 0.4mm size and is observed accompanied with the pentlandite and the pyrrhotite. Marcasite is observed which replaced a pentlandite and chalcopyrite with micro-graphic texture.

(2) MJZS-2

Sulphide dissemination is observed in the uppermost portion of the bronzitite layer and shows about 10m of thickness(226m-274m). A kind of minerals, grain size and form of minerals are similar to MJZS-1 drilling. Sulphide content is estimated maximum approximately 5%.

By the result of chemical analysis, a platinum group element shows maximum 782 ppb. and concentrate in the lowest portion(269.00m-273.50m) of sulphide disseminated zone.

Results of microscopic observation of ore polish samples are as follows.

P-5 (269.80m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite > marcasite > valleriite. Pyrrhotite shows irregular shape 0.1 to 2mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Chalcopyrite shows irregular shape 0.02 to 0.2mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.3mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. pentlandite is also recognized as an exsolution products with the flame and foliated texture in many cases. Marcasite is observed which replaced a pentlandite and chalcopyrite with micro-graphic texture, and is observed as a small vein in some cases. Valleriite shows irregular shape 0.01 to 0.02mm size and is observed an extremely small quantity in gangue minerals.

P-6 (270.30m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite > marcasite. Pyrrhotite shows irregular shape 0.1 to 0.5mm size and is observed closely assembled with the pentlandite and the chalcopyrite. Chalcopyrite shows irregular shape 0.02 to 0.2mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Pentlandite is also recognized as an exsolution products in the pyrrhotite with the flame and foliated texture in some cases. Marcasite is observed which replaced a pentlandite and chalcopyrite with micro-graphic texture, and is observed as an assemble of foliated crystal in some cases. Pyrite shows granular shape 0.05 to 0.2mm size and is observed wrapped by the pentlandite.

P-7 (271.60m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite > marcasite. Pyrrhotite shows irregular shape 0.1 to 1mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Chalcopyrite shows irregular shape 0.02 to 0.1mm size and is observed accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.04 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Pentlandite is also recognized as an exsolution products in the pyrrhotite with the flame and foliated texture in some cases. Marcasite is observed which replaced a

pentlandite and chalcopyrite with micro-graphic texture, and is observed as a small vein in some cases.

(3) MJZS-3

2 layers of sulphide dissemination zone are observed in this drilling . Upper one situate a uppermost of the bronzitite layer and shows about 10m(263.50m-273.50m), another situate approximately 70m lower than the upper one and shows about 16m(335m-351m). A kind of minerals, grain size and form of minerals are similar to MJZS-1 and 2 drilling. Sulphide content is estimated maximum approximately from 1 to 2%.

Upper sulphide disseminate zone corresponds to MSZ and lower zone corresponds to LSZ.

By the result of chemical analysis, a platinum group element shows maximum 928 ppb and concentrate in the lowest portion(346m-351m) of sulphide disseminated zone.

Results of microscopic observation of ore polish samples are as follows.

P-1 (269.20m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite > mackinawite > talnakhite. Pyrrhotite shows irregular shape 0.01 to 0.4mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced and scattered in boundary of gangue minerals. Chalcopyrite shows irregular shape 0.01 to 0.2mm size and is observed closely assembled with the pentlandite and the pyrrhotite. Pentlandite shows granular and irregular shape 0.02 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Pentlandite is also recognized as an exsolution products in the pyrrhotite with the flame and foliated texture in some cases. Mackinawite shows 0.01 to 0.03mm size and is observed as a foliated exsolution products in the chalcopyrite. Talnakhite shows granular shape 0.01 to 0.02mm size and scattered an extremely small quantity accompanied with the pentlandite in gangue minerals.

P-2 (341.10m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite > pentlandite > chromite > marcasite > pyrite > sphalerite. Pyrrhotite shows irregular shape 0.05 to 0.5mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced and scattered in boundary of gangue minerals. Chalcopyrite shows irregular shape 0.02 to 0.2mm size and is observed closely assembled with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.3mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Pentlandite is also recognized as an exsolution

products in the pyrrhotite with the flame and foliated texture in some cases. Pyrite shows granular shape 0.01 to 0.08mm size and is observed wrapped by the pentlandite and the pyrrhotite. Marcasite is observed as a micro-graphic replacement in the chalcopyrite, and some times observed as a foliated exsolution products and a small vein. Sphalerite shows granular and irregular shape 0.1 0.2mm size and is observed a small quantity accompanied with the pyrrhotite. Chromite shows granular shape 0.05 to 0.2mm and scattered a small quantity in gangue minerals.

(4) MJZS-4

2 layers of sulphide dissemination zone are observed also in this drilling . Upper one situate a uppermost of the bronzitite layer and shows about 17m(70m-87m), another situate approximately 60m lower than the upper one and shows about 10m(143m-153m). A kind of minerals, grain size and form of minerals are similar to MJZS-1 and 2 drilling. Sulphide content is estimated maximum approximately from 1 to 2%.

Each sulphide disseminate zone corresponds to MSZ and LSZ same to MJZS-3.

By the result of chemical analysis, a platinum group element shows maximum 357 ppb (85m-87m) in MSZ and 537 ppb (149m-153m) in LSZ, and concentrate in the lowest portion of each sulphide disseminated zone.

Results of microscopic observation of ore polish samples are as follows.

P-12 (70.70m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > pentlandite > chalcopyrite. Pyrrhotite shows irregular shape 0.02 to 0.2mm size and is observed closely assembled with the pentlandite and the chalcopyrite which replaced a gangue minerals and their boundary. Pentlandite shows granular shape 0.05 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite or wrapped by the pyrrhotite. Chalcopyrite shows irregular shape 0.05 to 0.3mm size and is observed closely assembled with the pentlandite and the pyrrhotite.

P-13 (82.15m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > pentlandite > chalcopyrite. Pyrrhotite shows irregular shape 0.1 to 0.2mm size and is observed closely assembled with the pentlandite and the chalcopyrite in boundary of gangue minerals. Pentlandite shows granular or euhedral shape 0.05 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite or as a foliated exsolution products. Chalcopyrite shows irregular shape 0.05 to 0.5mm size and is observed

closely assembled with the pentlandite and the pyrrhotite.

P-14 (148.75m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > pentlandite > chalcopyrite > marcasite > sphalerite. Pyrrhotite shows irregular shape 0.05 to 0.2mm size and is observed closely assembled with the pentlandite and the chalcopyrite. Pentlandite shows granular or irregular shape 0.02 to 0.2mm size and is observed assembled with the pyrrhotite and the chalcopyrite or replaced a boundary of gangue minerals. Chalcopyrite shows irregular shape 0.05 to 0.5mm size and is observed assembled with the pentlandite and the pyrrhotite. Marcasite is observed which replaced the pentlandite and the pyrite. An extremely small quantity of sphalerite accompanied with the pentlandite.

(5) MJZS-5

Sulphide dissemination was observed in the uppermost of the bronzitite layer (162m-172.50m) just under the serpentinite layer which exist in contact zone between websterite and bronzitite layer. This mineralization is mainly composed of pyrrhotite, pyrite and accompany an extremely small quantity of chalcopyrite same to the other drillings by the naked eye. Grain size is maximum 2mm, generally less than 1mm and around 0.5mm. these minerals show euhedral usually and irregular anhedral mineral that filled a grain boundary is also recognized. These sulphide content is estimated maximum about 3%.

By the result of chemical analysis, these minerals concentrate in the lowest portion of sulphide disseminate zone and show maximum platinum group elements content 762 ppb.

Results of microscopic observation of ore polish samples are as follows.

P-3 (164.80m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite = chalcopyrite = pentlandite >> sphalerite. Pyrrhotite shows irregular shape 0.02 to 0.2mm size. Chalcopyrite shows irregular shape 0.05 to 0.3mm size and is observed closely assembled with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.2mm size and is observed assembled with the pyrrhotite and the chalcopyrite. Sphalerite shows irregular shape 0.01 to 0.03mm size and accompanied with the pyrrhotite.

P-4 (165.70m) : Disseminated ore in the bronzitite.

A variety and quantity of ore minerals are pyrrhotite > chalcopyrite = pentlandite >> bornite = talnakhite. Pyrrhotite shows irregular shape 0.1 to 0.3mm size and is observed closely

assembled with the pentlandite and the chalcopyrite. Chalcopyrite shows irregular shape 0.02 to 0.1mm size and accompanied with the pentlandite and the pyrrhotite. Pentlandite shows granular shape 0.05 to 0.2mm size and is observed closely assembled with the pyrrhotite and the chalcopyrite. Bornite is observed as a foliated exsolution products in the chalcopyrite. An extremely small quantity of talnakhite which shows granular shape 0.005 to 0.02mm size and accompanied with the pyrrhotite is observed.

Distribution of ore elements in each holes are shown in Fig.II-2-11. Distribution peak of 3 platinum group elements (platinum, paradium, rhodium) situate approximately same place and paradium has comparatively wide distribution to lower direction. Gold has a similar distribution form to platinum group elements and its peak situate just upper place of platinum group elements. Silver don't show a characteristic distribution form against gold and platinum group elements. Copper and sulpher have similar distribution form each other and characteristically decrease their content from where platinum group elements distribute to lower portion. Cobalt and Nickel have similar gentle distribution form each other and wide distribution peak is formed in upper place from where platinum group elements.

EPMA quantitative analysis was carried out for typical ore samples. Number of samples are 6 and analyzed point are total 37 points. Main results of this analysis are shown in Table II-2-13.

Main Mineral assemblage in this area is pyrrhotite - pentlandite - chalcopyrite, A small quantity of mackinawite, talnakhite, bornite and valleriite which are closely accompanied to main ore minerals or are as exsolution products are observed. An extremely small quantity of pyrite, marcasite, sphalerite and chromite are also recognized.

On the other hand, platinum group ore minerals were not observed in microscopic observation and EPMA analysis. It may be reason why the metal content of platinum group elements are too low grade to observe microscopically as shown in results of chemical analysis.

Previous works point out that platinum group minerals consist of sperrylite (PtAs2), moncheite (PtTe2), merenskyite (PdTe2) and holligworthite (RhAs2) (E.P.O.645) (M.D.Prendergast and A.H.Wilson, 1989).

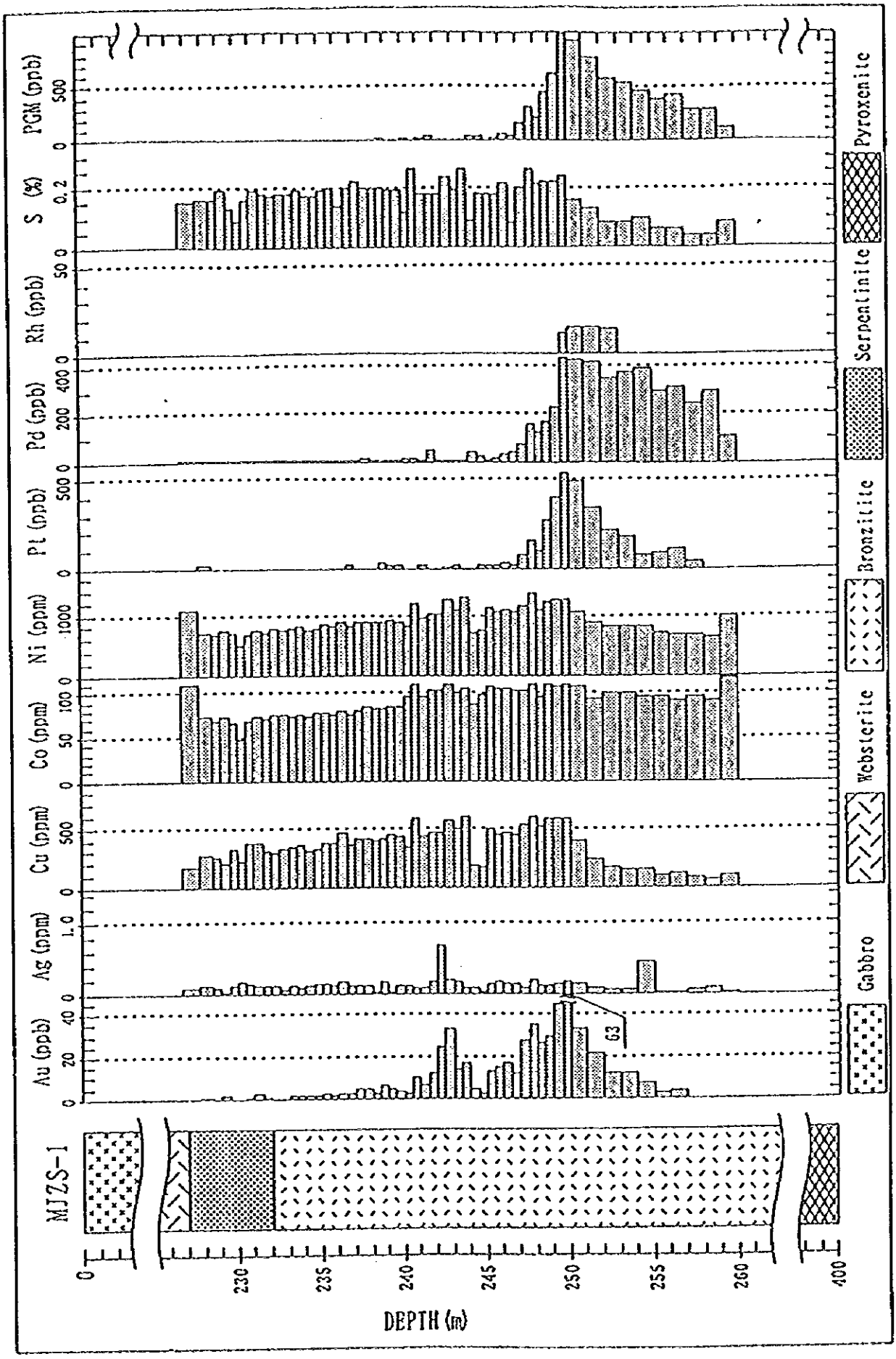


Fig.II-2-11 Log showing of Chemical analysis of ore samples (MJZS-1)

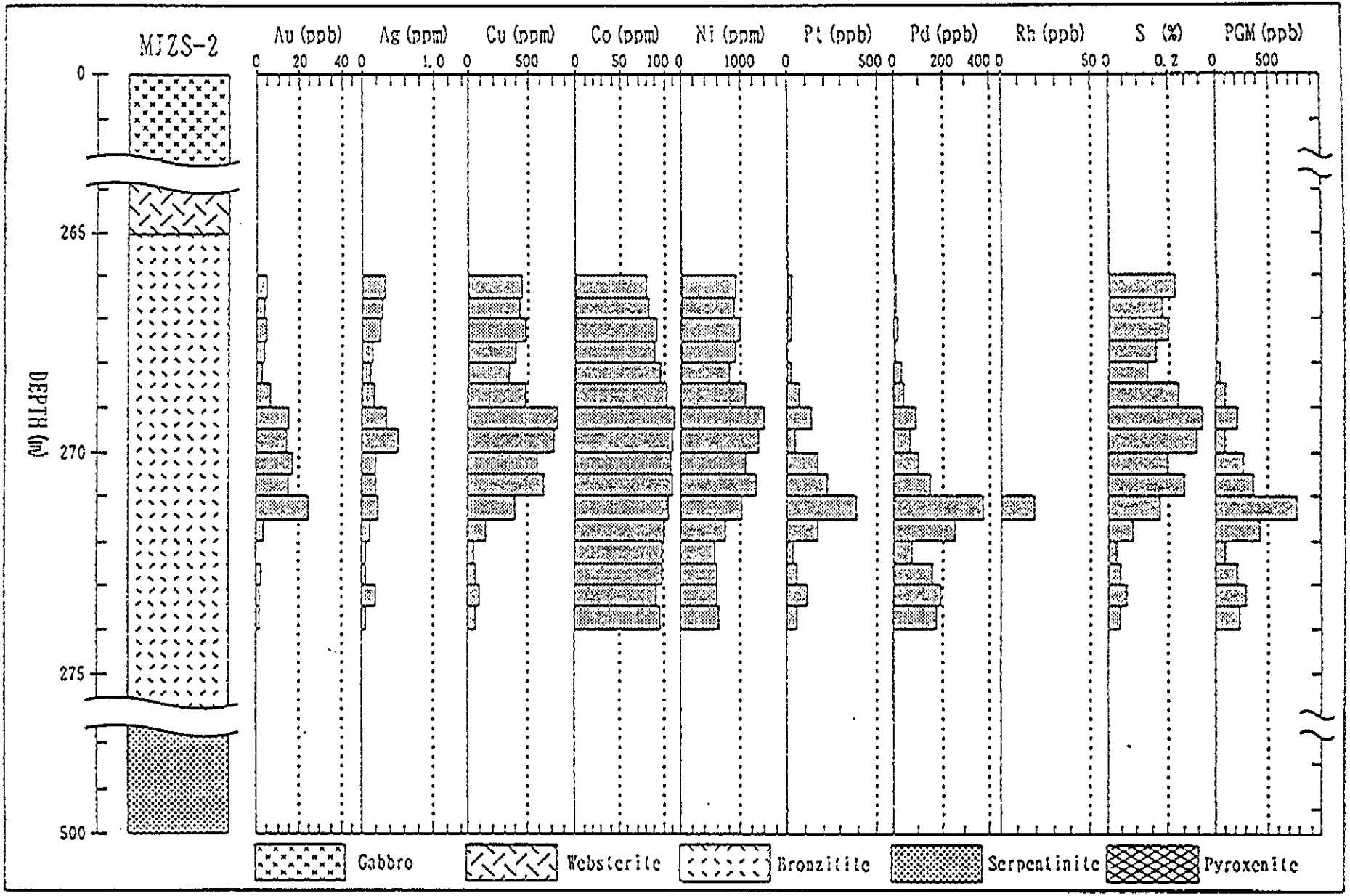


Fig.II-2-11 Log showing of Chemical analysis of ore samples (MJZS-2)

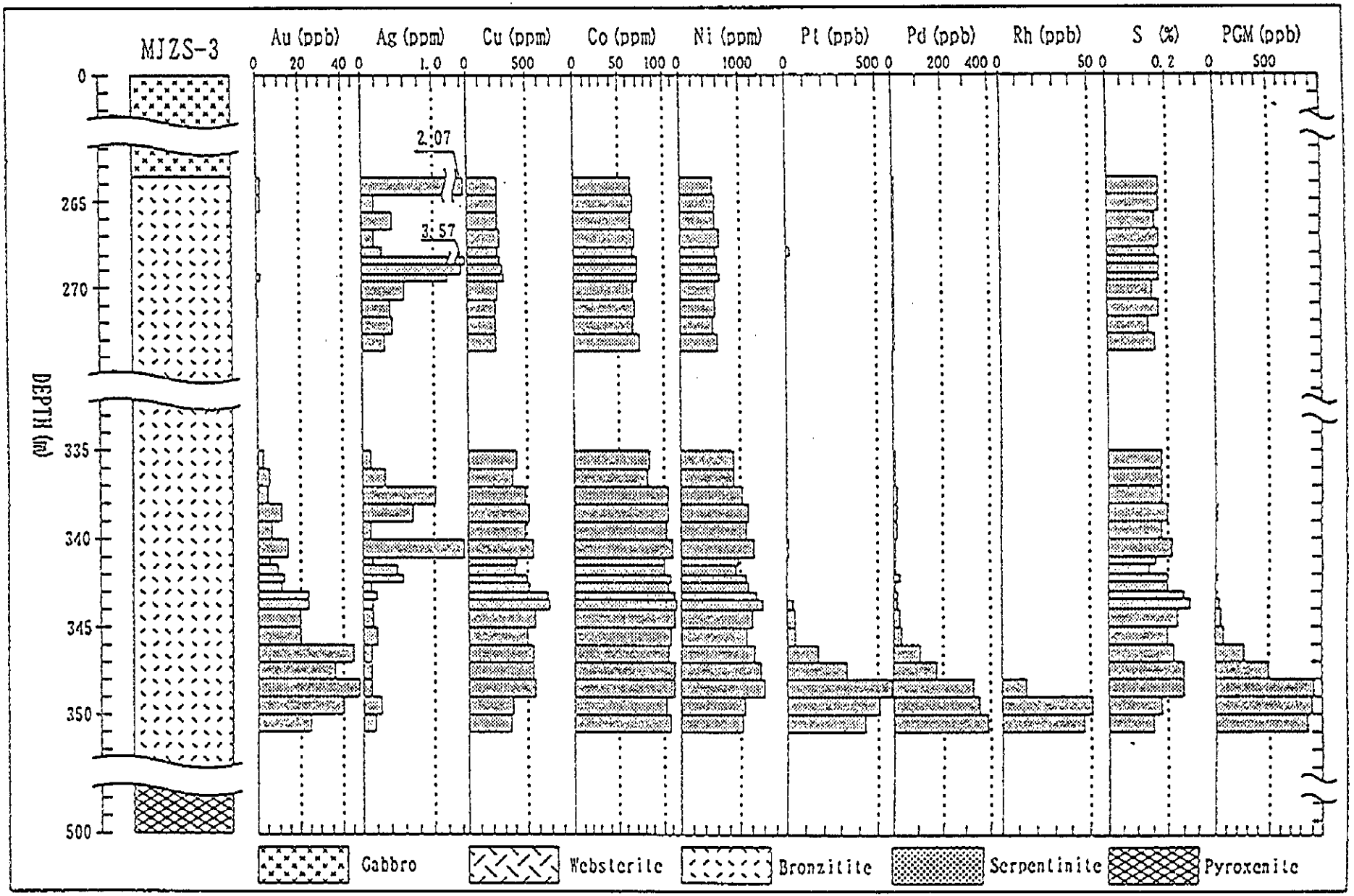


Fig.II-2-11 Log showing of Chemical analysis of ore samples (MJZS-3)

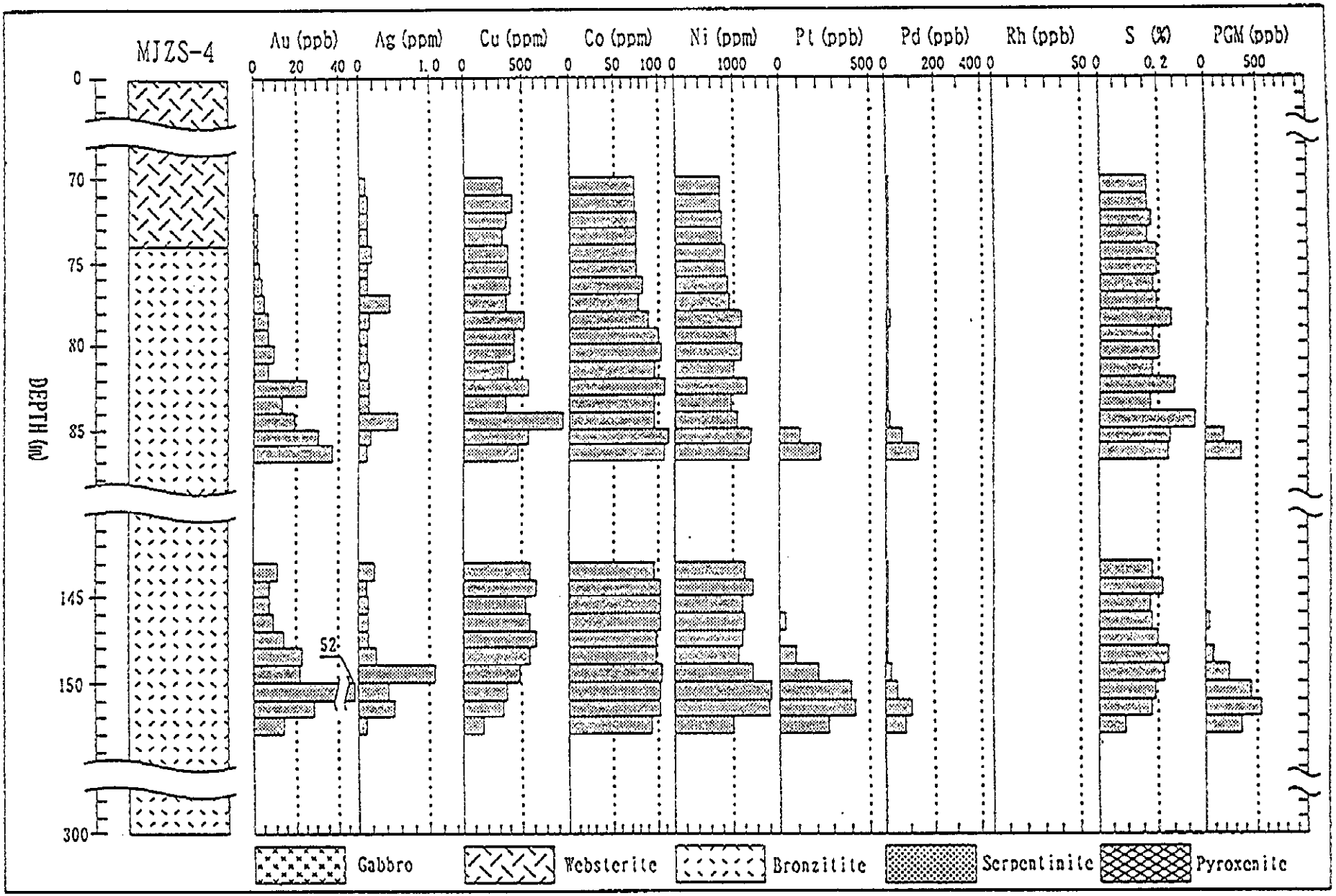


Fig.II-2-11 Log showing of Chemical analysis of ore samples (MJZS-4)

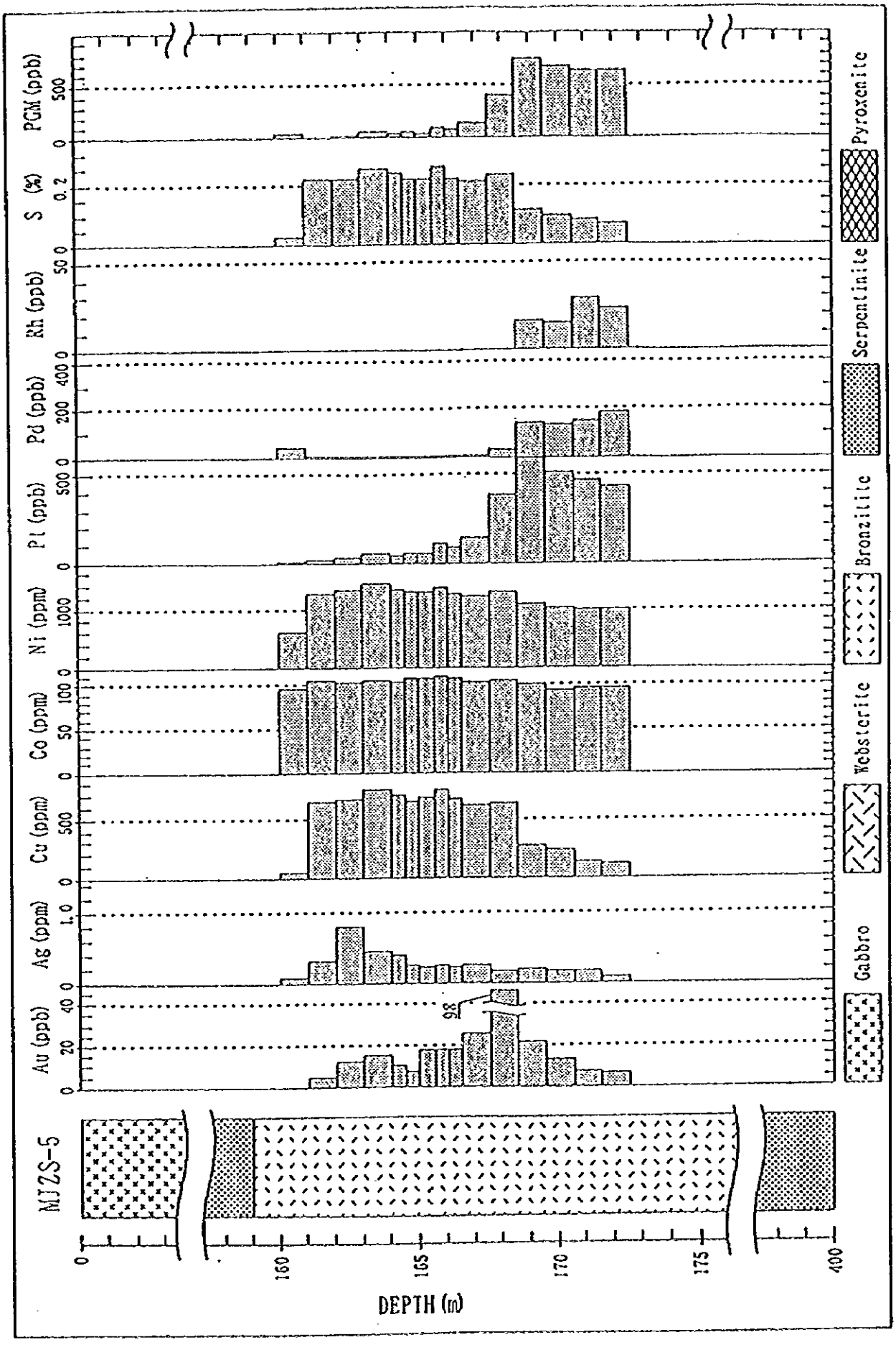


Fig.II-2-11 Log showing of Chemical analysis of ore samples (MJZS-5)

Table II-2-13. Results of EPMA quantitative analysis

No.	Hole No.	Depth	Mineral		Fe	Ni	Co	Cu	S	Total
P-1	MJZS-3	469.20	Pyrrhotite	Wt%	60.78	0.52	0.11	0.12	38.49	100.01
				At%	47.29	0.38	0.08	0.08	52.17	100.00
			Pentlandite	Wt%	30.59	35.82	0.99	0.04	33,21	100.65
				At%	24.77	27.59	0.76	0.03	46.85	100.00
P-2	MJZS-3	341.10	Marcasite	Wt%	45.02	1.54	0.96	0.00	52.32	99.84
				At%	32.50	1.06	0.65	0.00	65.79	100.00
			Pyrite	Wt%	46.46	0.09	0.10	0.00	53.13	99.78
				At%	33.37	0.06	0.07	0.00	66.49	99.99
P-3	MJZS-5	164.80	Pentlandite	Wt%	28.05	35.95	1.40	0.16	33.32	98.88
				At%	23.03	28.09	1.09	0.12	47.67	100.00
P-4	MJZS-5	165.70	Talnakhite	Wt%	29.31	1.31	0.09	35.67	33.26	99.63
				At%	24.44	1.04	0.07	26.14	48.31	100.00
			Bornite	Wt%	14.08	0.00	0.05	58.34	26.09	98.58
				At%	12.70	0.00	0.04	46.52	41.01	100.00
P-5	MJZS-2	269.80	Pentlandite	Wt%	30.27	35.45	0.57	0.06	33.60	99.94
				At%	24.59	27.40	0.43	0.04	47.54	100.00
P-6	MJZS-2	270.30	Pentlandite	Wt%	39.70	15.61	1.01	0.03	43.45	99.90
			& Marcasite	At%	30.24	11.31	0.73	0.09	57.64	100.01
			Chalcopyrite	Wt%	38.15	0.31	0.74	15.67	45.44	100.31
			& Marcasite	At%	28.88	0.23	0.57	10.43	59.94	100.01

2-3 Considerations

Exploration works in this area were carried out by UNION CARBIDE (E.P.O.193) and CLUFF (E.P.O.654), MSZ and LSZ were encountered.

In this survey, MSZ were encountered by all drillings of 5 holes and LSZ were encountered by 2 drill holes. It is consider that MSZ in this area may be continuous mineralization zone similar to other platinum mining are along to Great Dyke, and LSZ may be intermitted.

Summary of mineralization in this area is shown in Fig.II-2-12. after added the result of this year's drilling to Fig.II-1-4.

As shown in Fig.II-2-13, if the results of drillings including drillings of previous work are compared each other, it may be consider that the mineralization of sulphide and PGM in this area will continue to northern direction from L-line as the results of CHS-3 and CHS-4 drilling shown. The condition of MSZ shown by results of MJZS-1, 2 and 3 drilling also suggest a possibility that the probable mineralization will continue to northern direction. the condition of LSZ shown by results of

MJZS-3 and 4 drilling shows a tendency that LSZ on N-line will continue to eastern direction and become more probable. The result of MJZS-5 drilling may also show a possibility that MSZ on P-line become probable to eastern direction.

These condition may suggest a possibility that the mineralization of sulphide and PGM in this area will continue to northern direction and in the southern potion of this area the mineralization will continue to eastern direction.

Therefore additional drilling survey may be necessary in order to find more high content mineralization zone of sulphide and PGM.

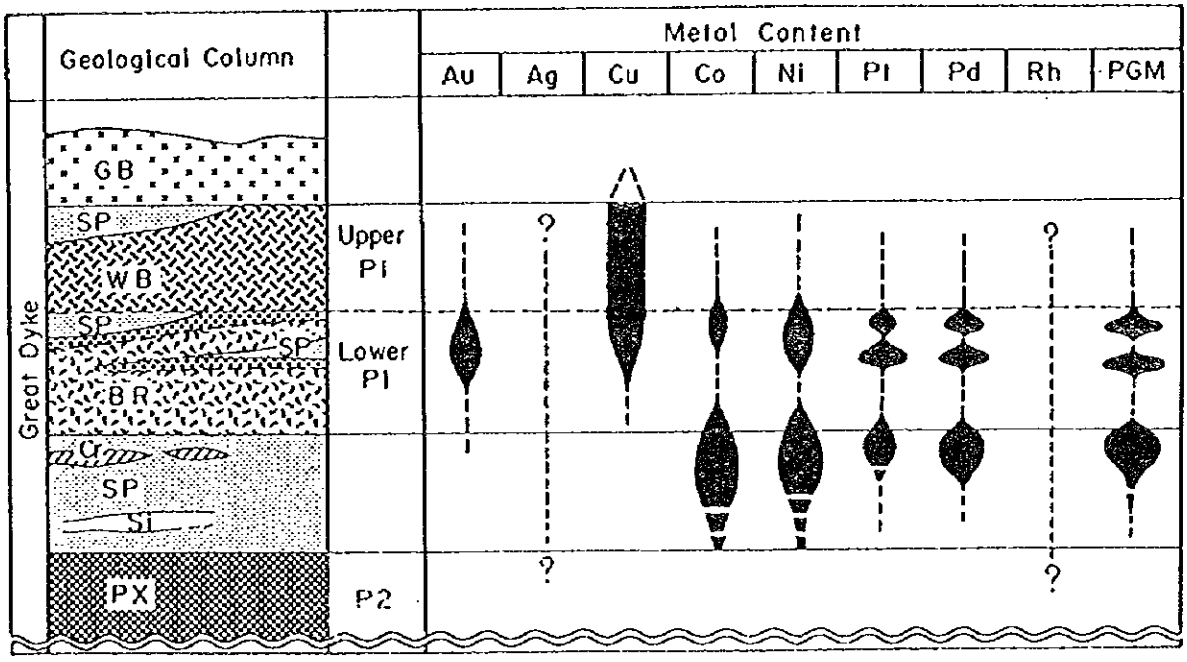


Fig.II-2-12 Summary of the mineralization(II)

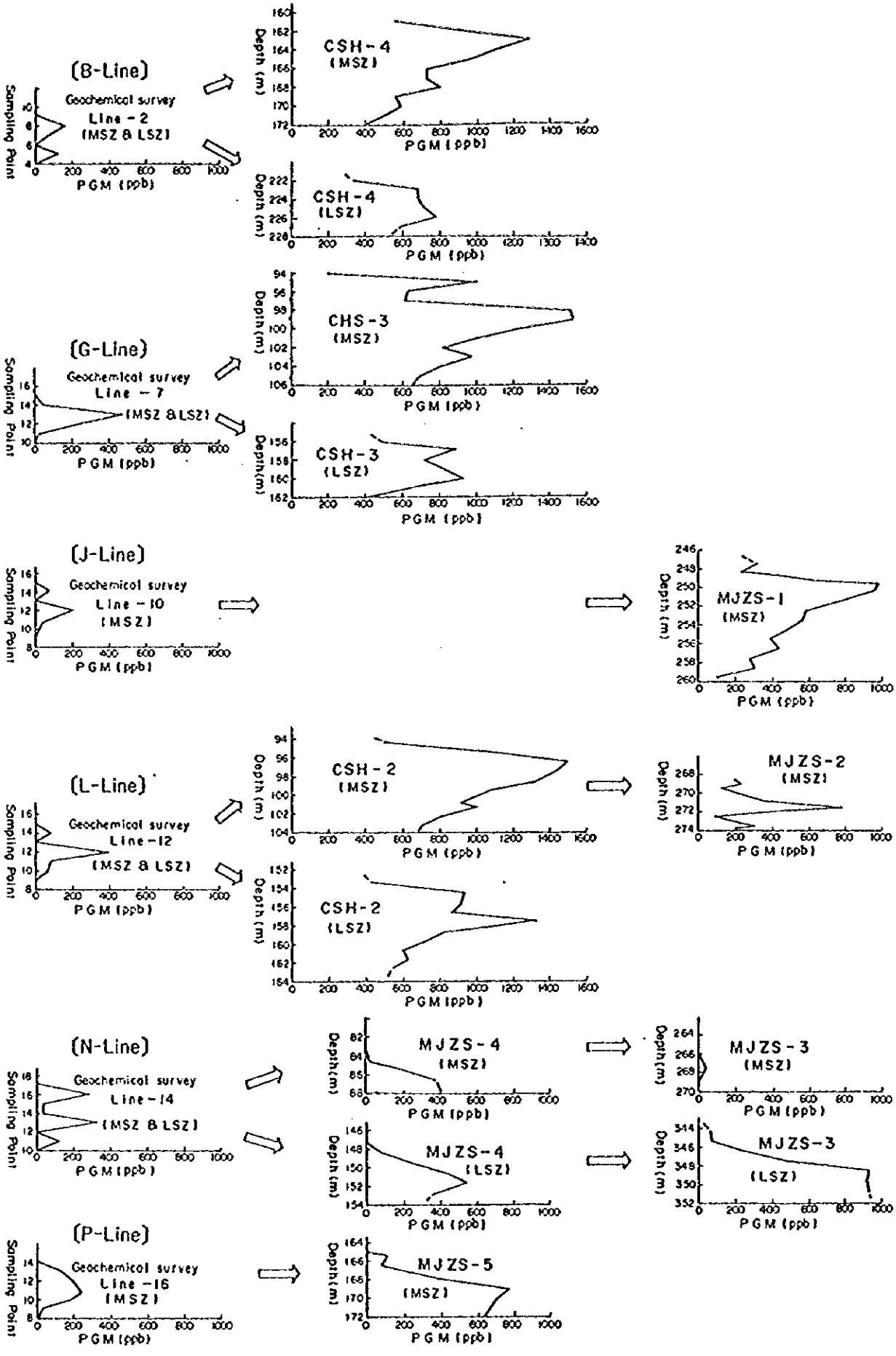


Fig.II-2-13 Comparison of the result of each drilling

Chapter 3 Consideration of the survey result

3-1 Controls on mineralization related to the geological structure and characteristics of the mineralization

The Great Dyke is a layered basic intrusion, whose PGM, Ni, and Co ore deposits are reported to occur mainly in the P1 layer just under the gabbroic rocks.

Upper gabbroic rocks are widely distribute in the center portion of the survey area. Rock facies move to lower peridotite (dunite, harzburgite) pass through multi layered pyroxenite.

The sulphide mineralization which can be observed by the naked eye mainly occur in the P1 layer of the upper most pyroxenite layer. Chromite occur mainly in the lower pyroxenite layer.

Sulphide minerals in the mineralized zone consist of pyrrhotite, pentlandite, chalcopyrite as essential minerals and the pyrite, magnetite, chromite as a accessory minerals. A small quantity of violarite, millerite, goethite occurring as secondary minerals were also recognized.

Layering in the western block shows a N-S to NE-SW direction of strike and E to SE direction of dip, whereas the layering in the central block shows a N-S direction of strike and E direction of dip in the northern portion and W direction of dip in the southern portion. The layering in the eastern block shows a N-S to NE-SW direction of strike and W to NW direction of dip.

3-2 Relationship between results of drilling and mineralization, geochemical anomalies, geophysical anomalies.

A summary of the sulphide mineralization zone of each hole which can be observed by the naked eye are as follows.

Hole No.	Depth(m)	Zone	Mineralization	Main Sulphides
MJZS-1	226.00~260.00	MSZ	disseminate	Po, Py, Cp
MJZS-2	266.00~274.00	MSZ	disseminate	Po, Py, Cp
MJZS-3	263.50~273.50	MSZ	disseminate	Po, Py, Cp
MJZS-3	335.00~351.00	LSZ	disseminate	Po, Py, Cp
MJZS-4	70.00~ 87.00	MSZ	disseminate	Po, Py, Cp
MJZS-4	143.00~153.00	LSZ	disseminate	Po, Py, Cp
MJZS-5	160.00~172.50	MSZ	disseminate	Po, Py, Cp

A summary of the PGM content in the sulphide mineralization zone is as follows.

Hole No.	Depth(m)	Pt(ppb)	Pd(ppb)	Rh(ppb)	PGM(ppb)
MJZS-1	247.50~248.00	157	162	---	319

Hole No.	Depth(m)	Pt(ppb)	Pd(ppb)	Rh(ppb)	PGM(ppb)
	248.00~248.50	102	122	---	124
	248.50~249.00	277	168	---	445
	249.00~249.50	396	228	---	624
	249.50~250.00	533	434	12	979
	250.00~251.00	490	425	15	930
	251.00~252.00	336	421	15	772
	252.00~253.00	213	353	14	580
	253.00~254.00	176	377	---	553
	254.00~255.00	75	391	---	466
	255.00~256.00	91	302	---	393
	256.00~257.00	106	315	---	421
	257.00~258.00	42	244	---	286
	258.00~259.00	---	299	---	299
	259.00~260.00	---	111	---	111
MJZS-2	269.00~269.50	133	98	---	226
	269.50~270.00	46	62	---	106
	270.00~270.50	167	100	---	267
	270.50~271.00	220	148	---	368
	271.00~271.50	389	373	19	782
	271.50~272.00	172	251	---	423
	272.00~272.50	24	72	---	96
	272.50~273.00	56	158	---	214
	273.00~273.50	106	194	---	300
	273.50~274.00	54	175	---	229
MJZS-3	346.00~347.00	166	108	---	224
	347.00~348.00	324	175	---	499
	348.00~349.00	583	331	14	928
	349.00~350.00	510	355	51	916
	350.00~351.00	438	394	47	924
MJZS-4	85.00~ 86.00	144	68	---	182
	86.00~ 87.00	224	133	---	357
	149.00~150.00	215	19	---	234
	150.00~151.00	402	46	---	448
	151.00~152.00	426	111	---	537
	152.00~153.00	270	81	---	351
MJZS-5	167.50~168.50	383	27	---	410
	168.50~169.50	598	147	17	762
	169.50~170.50	518	138	15	671
	170.50~171.50	467	152	29	648
	171.50~172.50	431	188	24	643

These mineralization zone of the PGM correspond well to the concentrate zone of platinum group elements of the Phase I

survey. The geochemical survey using a rock samples is useful for the platinum exploration.

On the other hand, these mineralization zone dose not show a clear correspondence against the result of the geophysical IP survey. It may be reason the why the sulphide content in the mineralized zone is only a few quantity, and a clear difference of chargeability between mineralized rock and country rock does not be shown.

3-3 Potentialities of expected ore deposits

As the result of the drilling survey, MSZ was encountered by 5 drillings, LSZ was encountered by 2 drillings. It is considered that MSZ in this area may be continuous mineralization zone and LSZ may be intermitted.

As the results of comparison of all drillings in this area including previous work, A possibility may be suggested that the mineralization of sulphide and PGM in this area will continue to northern direction and in the southern potion of this area the mineralization will continue to eastern direction.

Therefore additional drilling survey may be necessary in order to find more high content mineralization zone of sulphide and PGM.

Part III Conclusion and recommendation

Part III Conclusion and recommendation

Chapter 1 Conclusion

Through the study of results of Phase I survey, A probability of the existence of platinum ore deposit was indicated in the WS area, north-eastern portion of the WN area and northern portion of the CB area.

Drilling exploration of 5 holes were carried out in WS area in order to encounter the mineralization zone and find a new ore deposit.

A summary of the sulphide mineralization zone of each hole which can be observed by the naked eye are as follows.

Hole No.	Depth(m)	Zone	Mineralization	Main Sulphides
MJZS-1	226.00~260.00	MSZ	disseminate	Po, Py, Cp
MJZS-2	266.00~274.00	MSZ	disseminate	Po, Py, Cp
MJZS-3	263.50~273.50	MSZ	disseminate	Po, Py, Cp
MJZS-3	335.00~351.00	LSZ	disseminate	Po, Py, Cp
MJZS-4	70.00~ 87.00	MSZ	disseminate	Po, Py, Cp
MJZS-4	143.00~153.00	LSZ	disseminate	Po, Py, Cp
MJZS-5	160.00~172.50	MSZ	disseminate	Po, Py, Cp

Maximum metal content of the platinum group elements in the sulphide mineralization zone is as follows.

Hole No.	Depth(m)	Pt(ppb)	Pd(ppb)	Rh(ppb)	PGM(ppb)
MJZS-1	249.50~250.00	533	434	12	979
	250.00~251.00	490	425	15	930
MJZS-2	271.00~271.50	389	373	19	782
MJZS-3	348.00~349.00	583	331	14	928
	349.00~350.00	510	355	51	916
	350.00~351.00	438	394	47	924
MJZS-4	151.00~152.00	426	111	---	537
MJZS-5	168.50~169.50	598	147	17	762
	169.50~170.50	518	138	15	671

As the result of the drilling survey, MSZ was encountered by 5 drillings, LSZ was encountered by 2 drillings.

As the results of comparison of all drillings in this area including previous work, A possibility may be suggested that the mineralization of sulphide and PGM in this area will continue to northern direction and in the southern potion of this area the mineralization will continue to eastern direction.

Therefore additional drilling survey may be necessary in order to find more high content mineralization zone of sulphide and PGM.

Chapter 2 Recommendations for the phase III survey

According to conclusions obtained through the survey results in Phase I to II and study of them, The method of the Phase III are proposed as follows.

(1) Drilling survey must be carried out in WS area in order to find a new ore deposit which can be expect to develop.

(2) Drilling survey must be carried out in the north-eastern portion of the WN area and the northern portion of the CB area in order to study the probability of the existence of the platinum ore deposit.



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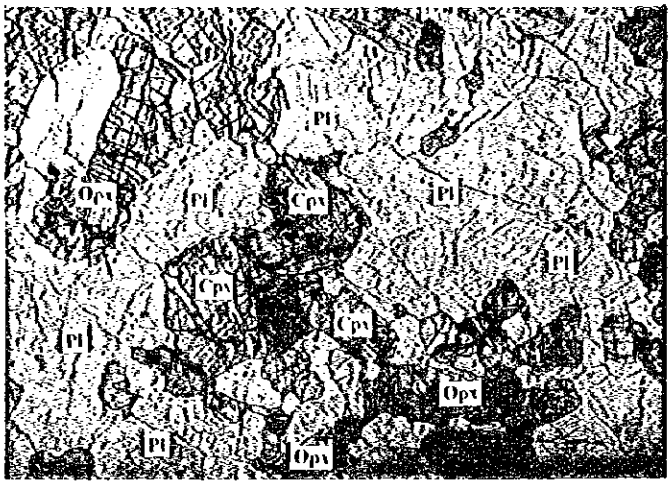
Appendices

A-1 Microphotographs of the thin sections

Abbreviations of mineral names in the plate

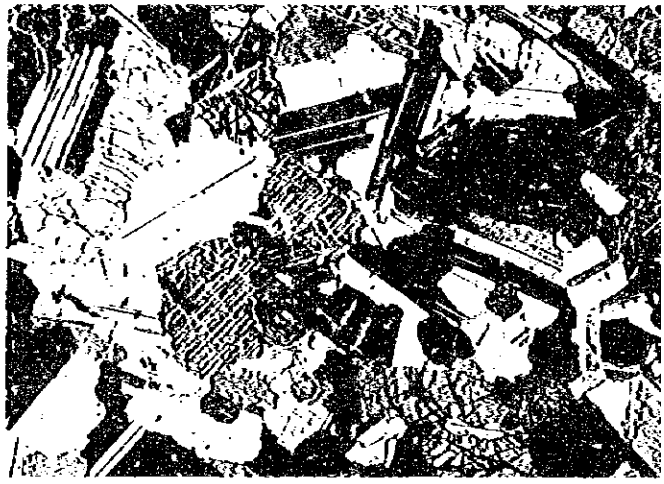
Pl : Plagioclase
Cpx: Clinopyroxene
Opx: Orthopyroxene
Ol : Olivine
Tlc:g Talc
Ser: Serpentinite
Cr : Chromite



Sample No. 1-04 Open nicol 1.0 mm

Rock name Gabbro-Norite

Locality MIZS-2 : 115.98m



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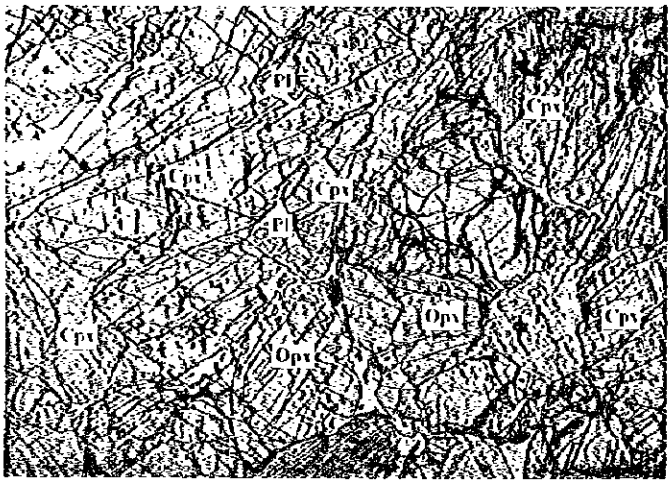
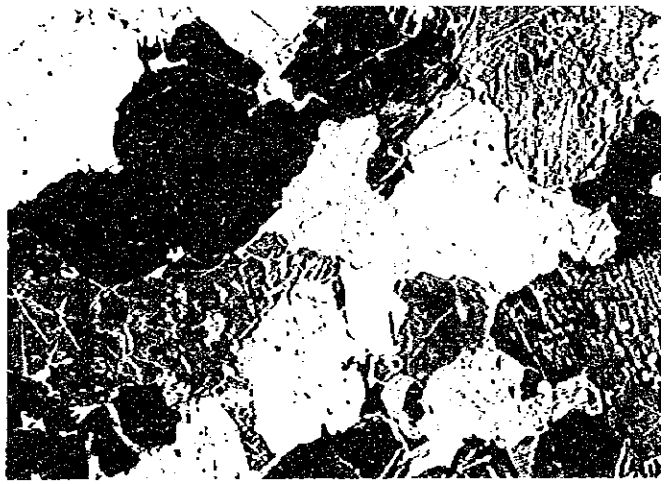


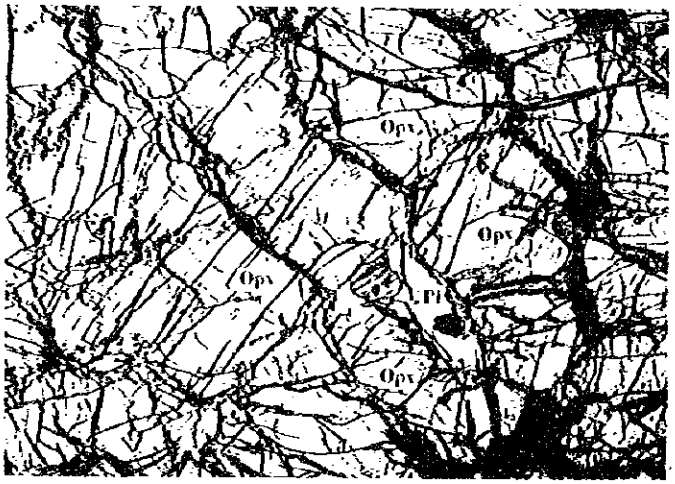
Sample No. 1-01 Open nicol 1.0 mm

Rock name Plagioclase bearing websterite

Locality MIZS-1 : 170.00m



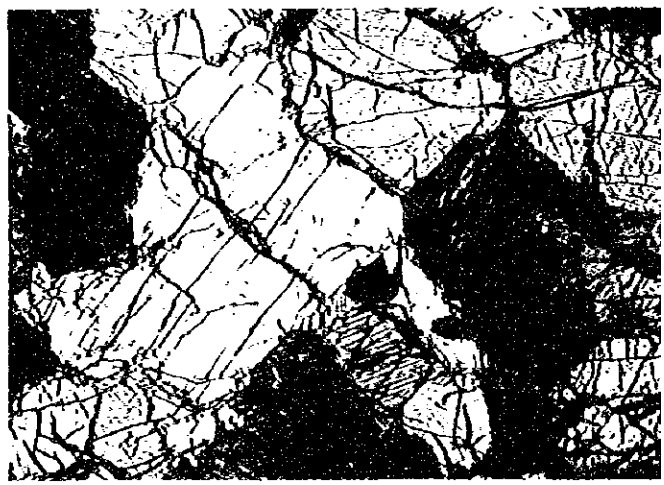
Cross nicols 1.0 mm



Sample No. 1-03 Open nicol 1.0 mm

Rock name Bronzitite

Locality MIZS-1 : 247.00m



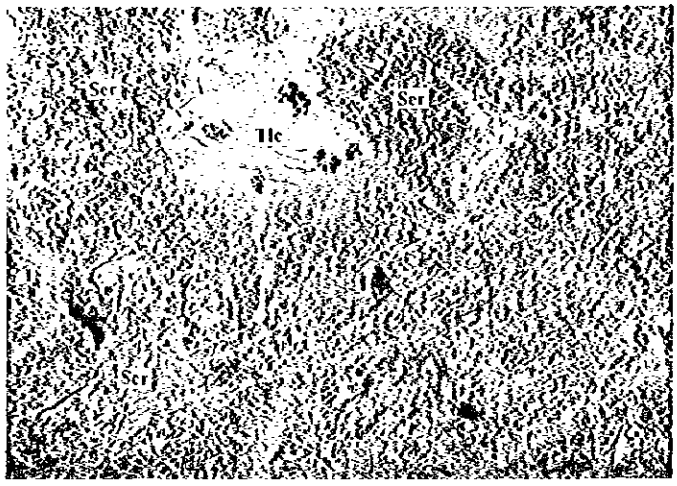
Cross nicols 1.0 mm

Sample No. T-09 Open nicol ⟵ 1.0 mm

Rock name Talc(-ein?)

Locality MJZS-5 : 317.20m

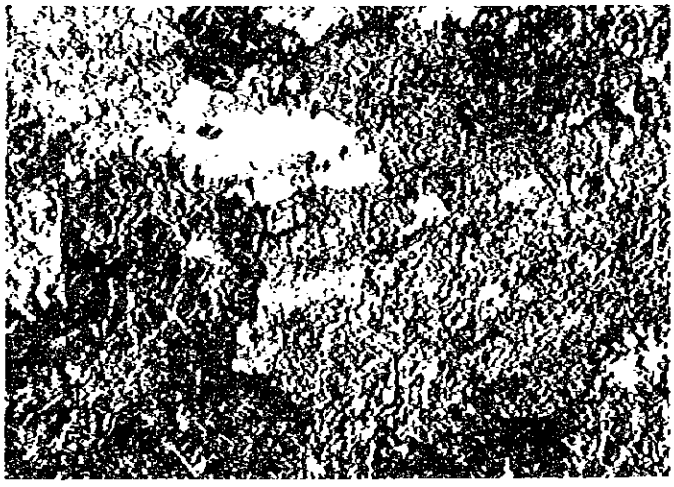
Cross nicols ⟵ 1.0 mm



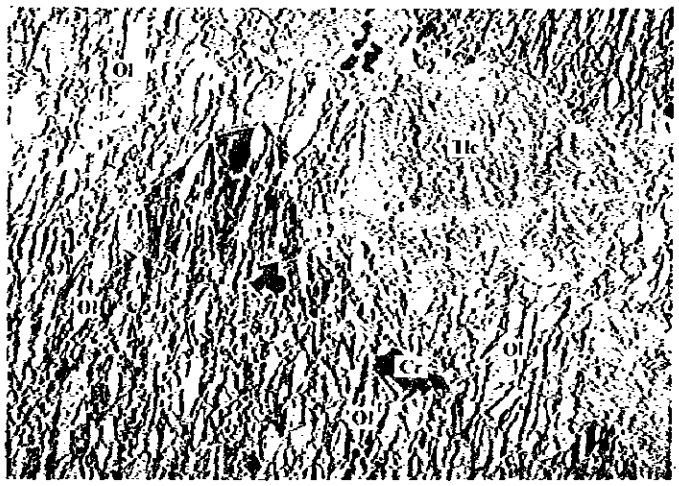
Sample No. T-10 Open nicol ⟵ 1.0 mm

Rock name Serpentinite

Locality MJZS-5 : 340.52m



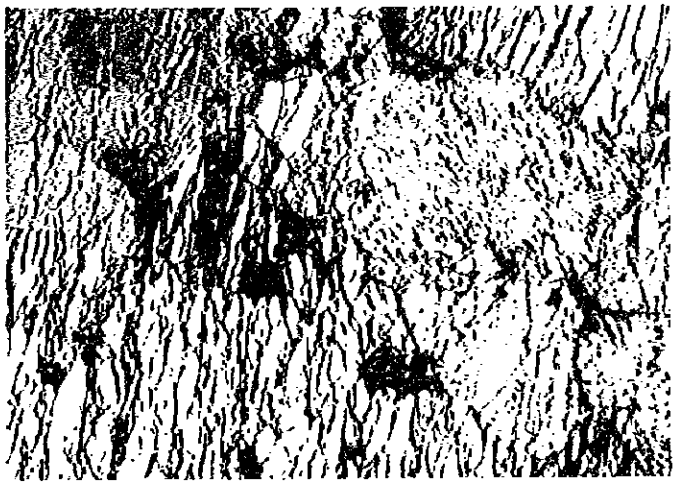
Cross nicols ⟵ 1.0 mm



Sample No. T-08 Open nicol ⟵ 1.0 mm

Rock name Dunite

Locality MJZS-2 : 486.00m



Cross nicols ⟵ 1.0 mm